



UNIVERSITY OF NAIROBI
FACULTY OF ARTS
DEPARTMENT OF SOCIOLOGY AND SOCIAL WORK

**THE SOCIAL DYNAMICS OF FOOD SECURITY IN SUBURBAN AREAS:
A CASE STUDY OF DAGORETTI, NAIROBI**

KAINGA MISHECK MUTEMBEI

C50/73104/2009

CS0 698: MASTER OF ARTS RESEARCH PROJECT PAPER

2011/2012 Academic Year

This research project is submitted in partial fulfilment of requirements for the award of Master of Arts Degree in Rural Sociology and Community Development at the University of Nairobi, Kenya.





UNIVERSITY OF NAIROBI
FACULTY OF ARTS
DEPARTMENT OF SOCIOLOGY AND SOCIAL WORK

**THE SOCIAL DYNAMICS OF FOOD SECURITY IN SUBURBAN AREAS:
A CASE STUDY OF DAGORETTI, NAIROBI**

KAINGA MISHECK MUTEMBEI
C50/73104/2009

CS0 698: MASTER OF ARTS RESEARCH PROJECT PAPER

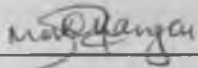
2011/2012 Academic Year

This research project is submitted in partial fulfilment of requirements for the award of Master of Arts Degree in Rural Sociology and Community Development at the University of Nairobi, Kenya.

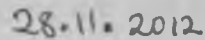


DECLARATION

This project is my original work and has not been presented in any other university.

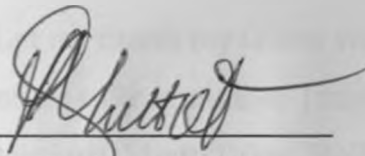


Kainga Misheck Mutembei



Date

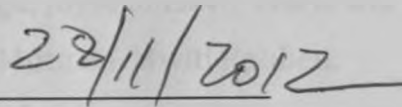
This project has been presented with my approval as the University Supervisor;



Dr. Pius Mutuku Mutie

Department of Sociology

University of Nairobi



Date

ACKNOWLEDGEMENT

I would like to acknowledge a few individuals who assisted me in carrying out this project work.

I thank my supervisor, Dr. Pius Mutie, for shaping my way of thinking and working tirelessly to ensure that I succeeded. Indeed, I am grateful to him for helping me cope in the field on Sociology because my previous background was not Social Sciences.

Let me thank my fellow students Joyce Wangu, Joyce Musuvi, Mark, and other colleagues like James Mutalii, Wilson Mutuma, Mwiti Reuben, Muthuri, Mwiti Drew, Stella Karimi, among others.

I would also like to thank my boss, Hon. Dr. Kilemi Mwiria for giving me time off to undertake the project.

More so, I thank my nuclear and the extended family for financial, moral and spiritual encouragement. More specifically my Mum Rael Kainda, Dad Kainga, Sister Kendi, Wife Mary and daughter Stacy.

To those whom I may not be able to thank personally, kindly take this acknowledgement as a sign of general appreciation.

Thank you

ABBREVIATIONS AND ACRONYMS

1. CBOs - Community Based Organizations
2. FAO - Food and Agriculture Organization of the U.N
3. Govt - Government
4. IFPRI - International Food Policy Research Institute
5. NGOs - Non – Governmental Organizations
6. KNBS - Kenya National Bureau of Statistics
7. SIDA - Swedish International Development Cooperation Agency (SIDA)
8. U.N. - United Nations
9. UNFPA - The United Nations Population Fund
10. U.S. - United States (Refers to United States of America)
11. USA - United States of America
12. USAID - United States Agency for International Development

TABLE OF CONTENTS	PAGES
Declaration	i
Acknowledgement.....	ii
Abbreviations and Acronyms	iii
Glossary.....	ix
Abstract	2
1.0 CHAPTER ONE:INTRODUCTION.....	3
1.1 Background	3
1.1.1 Food Security.....	3
1.1.2 Social Dynamics.....	7
1.2 Problem Statement.....	10
1.3 Research questions.....	12
1.4 Objectives of the Study.....	13
1.4.1 <i>The Main Objective</i>	13
1.4.2 <i>The Specific Objectives</i>	13
1.5 Justification of the Study.....	13
1.6 Scope of the Study.....	13
1.7 Definition of Key Terms.....	14
2.0 CHAPTER TWO: LITERATURE REVIEW.....	15
2.1 Introduction.....	15
2.2 Urbanization.....	17
2.3 Global Food Security	18
2.4 Food Security in a Suburban area.....	22
2.5 The Kenya National Food Policy.....	25
2.6 Socioeconomic Dynamics of Food Security in Nairobi City.....	26
2.7 Theoretical Framework.....	28
2.7.1 <i>The micro sociological theory of the urban and rural societies</i>	28
2.7.1.1 <i>The Pessimists</i>	29
2.7.1.1.1 <i>Gemeinschaft (community)</i>	29
2.7.1.1.2 <i>Gesellschaft (association)</i>	29
2.7.1.1.3 <i>"The Metrolis and Mental life"</i>	29
2.7.1.2 <i>The Optimists</i>	30

2.7.1.2.1	<i>Mechanical solidarity</i>	30
2.7.1.2.2	<i>Organic solidarity</i>	30
2.7.2	<i>'Sub urbanism'</i>	31
2.7.3	<i>'Risk Society' theory</i>	32
2.7.4	<i>Globalization</i>	34
2.8	The Conceptual Framework.....	35
3.0	CHAPTER THREE: METHODOLOGY	37
3.1	Introduction.....	37
3.2	Site selection and description.....	37
3.3	Sampling Design Frames.....	38
3.4	Size of the Sample.....	40
3.5	Methods and Tools of Data Collection.....	40
3.5.1	<i>Household Interview</i>	40
3.5.2	<i>Key Informant Interview</i>	41
3.5.3	<i>Focus Group Discussions</i>	41
3.5.4	<i>Observation</i>	42
3.5.5	<i>Desk Review</i>	42
3.5.6	<i>Case Study</i>	42
3.5	Data Analysis.....	42
4.0	CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS	44
4.1	Introduction.....	44
4.2	Demographic Characteristics of the Respondents.....	44
4.2.1	<i>Sex</i>	44
4.2.2	<i>Age</i>	44
4.2.2	<i>Marital status</i>	45
4.2.3	<i>Occupation</i>	45
4.2.4	<i>Occupation of the of the respondent's spouse</i>	46
4.2.6	<i>Level of Education</i>	47
4.2.7	<i>Average Monthly Income</i>	48
4.3	Main Findings.....	49
4.3.1	<i>Introduction</i>	49

4.3.2 Sources of food for suburban residents.....	49
4.3.2.1 The main source of food	51
4.3.2.2 The sources of food in each household.....	52
4.3.2.3 The food crops grown, poultry and animals kept.....	54
4.3.3 The influence of urbanization on farming and food security	55
4.3.3.1 Farming, livestock and poultry keeping.....	55
4.3.3.2 Food security.....	56
4.3.3.3 The people's opinion on availability of food	58
4.3.3.4 The main farming systems practiced.....	59
4.3.4 Food security challenges and the local solutions.....	60
4.3.4.1 Food production and food security.....	60
4.3.4.2 Getting employment.....	62
4.3.4.3 Expansion of the city.....	63
4.3.4.4 The average land acreage.....	64
4.3.4.5 High income spent on food.....	66
4.3.4.6 Low food production from Nairobi.....	67
4.3.4.7 Actual people's solutions of addressing food security.....	69
4.4 Conclusion.....	70

5.0 CHAPTER FIVE: SUMMARY, CONCLUSION AND

RECOMMENDATIONS.....	73
5.1 Introduction.....	73
5.2 Summary of the key findings.....	73
5.2.1 Sources of food for suburban residents.....	73
5.2.2 The influence of urbanization on farming and food security.....	74
5.2.3 The food security challenges and how they are handled.....	74
5.3 Conclusion.....	75
5.4 Recommendations.....	76
5.4.1 The Kenyan Government.....	77
5.4.2 The Community.....	77
5.4.3 The NGOs.....	77
5.4.1 Areas for further research.....	78

REFERENCES.....	79
------------------------	-----------

Electronic sources.....	82
-------------------------	----

APPENDICES

Appendix I: Structured questionnaire for the household interview.....	I
Appendix II: Key informant interview guide.....	IX
Appendix III: Focus group discussion guide.....	XIII
Appendix IV: Observation checklist.....	XV

LIST OF FIGURES

<i>Figure 2.1 - Conceptual Framework.....</i>	<i>35</i>
<i>Figure 4.1 - Growing of arrow roots at Muthama, Dagoretti.....</i>	<i>51</i>
<i>Figure 4.2 - Growing of Napier grass at Muthama, Dagoretti.....</i>	<i>65</i>

LIST OF TABLES

<i>Table 4.1 - The age of the respondents.....</i>	<i>45</i>
<i>Table 4.2 - The marital status of the respondents.....</i>	<i>45</i>
<i>Table 4.3 - The occupation of the respondents.....</i>	<i>46</i>
<i>Table 4.4 - The occupation of the respondents' spouses</i>	<i>47</i>
<i>Table 4.5 - The highest level of education of the respondents.....</i>	<i>48</i>
<i>Table 4.6 - The average monthly income of the respondents</i>	<i>49</i>
<i>Table 4.7 - The main sources of food</i>	<i>52</i>
<i>Table 4.8 - The main sources of food for each household.....</i>	<i>54</i>
<i>Table 4.9 - The main influence of urbanization on food security.....</i>	<i>57</i>
<i>Table 4.10 - The residents opinion on availability of food.....</i>	<i>58</i>
<i>Table 4.11 - The main farming systems practiced in Dagoretti.....</i>	<i>59</i>
<i>Table 4.12 - The main food security challenge faced by residents.....</i>	<i>61</i>
<i>Table 4.13 - Average land acreage available for farming.....</i>	<i>65</i>

<i>Table 4.14</i>	-	<i>The approximate percentage of income spent on food....</i>	<i>66</i>
<i>Table 4.15</i>	-	<i>Maize stocks of 90kg bags as at 31 December 2011.....</i>	<i>67</i>
<i>Table 4.16</i>	-	<i>Maize crop production statistics for year 2011.....</i>	<i>68</i>
<i>Table 4.17</i>	-	<i>Respondents ways of addressing food security.....</i>	<i>70</i>

Glossary

1. **Case study** - An analysis of a particular case or situation used as a basis for drawing conclusions in similar situations have on the natural world.
2. **Dago** - A local colloquial reference to Dagoretti area
3. **Githeri** - Food which is a mixture of boiled maize and beans minced meat pieces and blood.
4. **Haasura** - A local colloquial word referring to a hustler. It usually refers to someone with no permanent job and the source of income is subject to luck of getting some menial job.
5. **Maara** - Offal of goat or cow that comprise of the small intestines.
6. **Mama mboga** - Ladies who sell in open air groceries in the estates.
7. **Mathagiyo** - Cooked cattle, pig or goat's hoofs that is also a local delicacy.
8. **Mkokoteni** - A Swahili word for hand-cart
9. **Mkoko** - A colloquial word for hand-cart
10. **Mugaruro** - A local delicacy resembling *mutuura* but made from the wind pipe of goats and minced meat pieces and raw blood.
11. **Mukimo** - Mashed potatoes and bananas.
12. **Mutwe** - Cooked head of a cow or goat
13. **Nyama cia Ngurwe** - Pork
14. **Nyama cia Ngombe** - Beef
15. **Shamba** - A Swahili language term used to refer to a piece of land
16. **Suubu** - Soup especially one made from boiling of the offal of goats or cows.

Abstract

Dagoretti is suburb in Nairobi city. There is rural/ suburban and urban Dagoretti and this study concentrated on the rural Dagoretti that comprised of Riruta, Waithaka and Uthiru locations.

Food is one of the basic needs in life. Therefore when people are food secure then they are likely to be more productive and healthy. The social dynamics of food security vary from one place to another depending on local challenges. Urban agriculture has been practiced in the world as well as Kenya. It can supplement food and incomes in the cities, towns and the suburbs as well. However, the Kenya Government has no clear policy on developing this important sector.

Food security is a global issue that needs to be addressed by all those concerned. It falls under the economic pillar of Kenya's vision 2030 under which Kenya aims to be a middle level economy by the year 2030. Urban agriculture has to be emphasized as it acts as a supplement to other forms of agriculture so that the country can be a net producer of food through good government policies like irrigation or subsidies.

Key words

Food security, Social dynamics, Suburb, Suburban and Urban agriculture.

1.0 CHAPTER ONE: INTRODUCTION

1.1 Background

1.1.1 Food Security

The World Food Summit of 1996, defined **food security** as existing;

“When all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life. Commonly, the concept of food security is defined as including both physical and economic access to food that meets people’s dietary needs as well as their food preferences.”

The World Bank, Food and Agriculture Organization of the United Nations, and the U.S. Agency for International Development (USAID) define food security as access by all people at all times to sufficient food to meet dietary needs for a productive and healthy life (Tweeten, 1999).

Food security falls under the economic pillar of Kenya’s vision 2030 under which Kenya aims to be a middle level economy by the year 2030. The government’s realized that a productive population needs to be well-fed. Indeed, food production has to be improved so that the country can be a net producer of food through good government policies like irrigation or subsidies.

In many countries, health problems related to dietary excess are an ever increasing threat. In fact, malnutrition and food borne diarrhoea have become a double burden.

The goal of the study was to understand the social dynamics of food security in a suburban area. It is important to note that the people living in the suburban areas are torn between modernity and the traditional way of life. Some have embraced the new and modern city way of lifestyle, while others have maintained the

traditional lifestyle that is characterised by; farming, livestock keeping, and bee keeping, among others.

Food is one of the five basic needs of a person. Others are; clothing, shelter, education and health. However, food is the most critical of all because even the most poor can somehow get the other four basic needs.

Most of the city authorities for example, the Nairobi City Council and others around the world do not allow the residents to grow food crops nor keep animals in urban areas. Therefore, most of their food is usually obtained from markets in the city, the suburbs or from the countryside.

The food prices in the city keep on fluctuating; generally, this depends on the market forces of demand and supply. When the demand is high the prices tend to rise, and vice - versa.

The ability to buy enough food is based on the individual's income, which determines the purchasing power. . The suburbs of Nairobi are characterised by, farming and livestock keeping. Therefore, a number of the people grow their own food, as opposed to the residents who reside within the city's Central Business District. Nonetheless, not all of the residents found in a suburban area grow crops and keep livestock. This study would thus like to establish the social dynamics involved in this phenomenon.

Adequate nutrition to needy people used to be the responsibility of; families, neighbours, churches, or mutual aid organizations. As local and state governments began to address social welfare concerns, they also provided food assistance to those they deemed in need. The American government's intent to provide relief food to farmers resulted in the added benefit of feeding hungry people (Diana, 1995)

Food security is a global issue that needs to be addressed by all those concerned. Diana says that some governments like the United States of America have a program like the Food Stamp Program to provide adequate diet to people who are excessively poor to obtain it for themselves.

Food availability leads to a healthy population. When the food is not available, then hunger and malnutrition follows.

Hunger and malnutrition remain as the most devastating problems facing the majority of the world's poor. Despite general improvements in food availability, health and social services, hunger and malnutrition exist in some form in almost every country. This is the conclusion of a recent U.N. Food and Agriculture Organization survey (Wright, 1995).

The author continues to observe that there are three faces of hunger - acute where large numbers of the population face imminent starvation, like currently in Somalia; chronic as in poverty stricken overpopulated resource poor countries like Bangladesh; and 'the hidden' hunger that is found worldwide, plaguing even industrialized nations.

However, Wright further notes that significant strides have been made in reversing hunger and malnutrition. He notes that early warning systems were also developed to detect weather patterns, so relief organizations could remain one step ahead of new famines.

Agricultural drought often combines with existing societal problems to generate food shortages. For example, drought at a time of escalating prices for stored grain, or drought plus high prices of fertilizer, drought plus locust infestation, drought plus internal wars, and so on, create food shortages that can turn into famine - like conditions. Drought, therefore, depending on its severity, can add additional people to the roll of the chronically hungry (Michael and Workineh, 1991).

In the 1970s, the major food security challenge was quantitative adequacy or physical access to food supplies. In the 1980s, physical access also continued to be a significant problem for some years and in some regions. For instance, the 1988 harvest worldwide was about 5 per cent less than the 1985 harvest. The Sahelian food famine of the mid-1980s also underlined the precarious food situation in many African countries where *per capita* food production has been declining steadily (Swaminathan, 1991).

One of the more readily identifiable measures of the importance of food to the low income household lies in expenditure patterns. Much of the material available in this context comes indirectly from research which has other objectives, but most estimates put the average proportion of the household budget spent on food at somewhere between 50 and 60 per cent of the total. Clearly there will be large variations around this figure but even in affluent Singapore, for example, some 45 per cent of the household budget goes on food. In poorer countries, the proportion is much higher; in urban Bangladesh, where debts permit, it reaches almost two-thirds of household expenditure. Within cities, there is an even wider range and it is not unusual to find the poorest families being forced to devote more than three-quarters of their income to food purchases (Drakakis -Smith, 1990).

He further notes that in urban areas many households still provide at least a proportion of their own needs through cultivation. This is urban subsistence, but it must be noted that in the Third World in general it seems to be of diminishing importance (although this varies substantially within the urban hierarchy and between countries). As other pressures on land remove the space available for cultivation, so the poor are forced into the commercial sector for food.

Drakakis -Smith goes to point out that urban food systems not only encompass the supply of fresh or processed foods but also include cooked foods, an area in which international capital is becoming increasingly involved, particularly through fast-food outlets. As the urban food distribution system becomes more commercialized,

so the ability of many poor households to meet their basic food needs is threatened, particularly if incomes are irregular as they are for those involved in petty-commodity activities. The consequence is under-nutrition, often in the face of improving health care programmes and a series of adaptive strategies by the poor, even to the extent of receiving food subsidies from rural households equally badly affected. He adds that there is clearly an important role for production within the urban periphery or 'suburbs'. For example, in Jin Hua fair in Guangzhou all of the sellers claim to be urban residents and yet 39 per cent are farmers, presumably selling their own produce, much of which comes from the suburban districts of the city.

1.1.2 Social Dynamics

The behaviour of groups, result from interactions of those individual group members. The study of relationship between individual interactions and group level behaviours is referred to as **social dynamics**. Therefore, every human interaction brings out several scenarios.

James, 1994, notes that Kingston, the capital city of Jamaica has been disintegrating under the dual effects of rapid urbanization and administrative neglect. In recent years concentric zones of poor, good and luxurious housing have progressively succeeded each other in a northerly direction away from the harbour front area. In a remarkable reversal of residential location over the past thirty years, the wealthy now commute from spacious homes on the hills overlooking the city, and the poor live in the lower parts of Kingston that were fashionable not long ago.

Further, James notes that as middle and upper class residents moved up and out into Kingston, new business investments also moved north of New Kingston, and commerce branched out to form suburban shopping centres in once rural junctions. In their wake, the migrants crowded into the older housing downtown, and the entire sections began to decline in dilapidated conditions.

In the pre-colonial period, remarkably few cities and towns existed in Africa. Those that existed did not exist in their current form. Administratively speaking, the capital city and outlying towns and villages in Africa were often linked by requirements that fief holders reside for a certain period each year at the capital and within proximity of the royal compound. These hereditary landed aristocrats initially served as a major channel of communication between the city authorities and the subject masses in the countryside. Many titled aristocrats, used to the pleasures of urban life and the beneficiaries of the monarch, were thus able to become absentee landlords, preferring to spend most of their time in the capital. This trend seemed most evident in the Emirates of the Sokoto Caliphate from the mid-nineteenth century. The phenomenon was also fairly common to other centralized politics south of the Sahara (Richard, 1976).

Richard notes that a popular misconception about Africa is that blacks did not build towns and that they lacked the political sophistication and organization to do so. Most Europeans viewed Africans as living in isolated, unstructured bush communities with little or no understanding of architectural design or appreciation of aesthetics in town organization. They described the Africans dwellings as monotonous, look-alike mud and thatch structures.

Richard further says that patterns of segregation clearly existed in many African towns and cities. Al-Bakri, the eleventh – century Arab Geographer from Cordoba, described Ghana's capital of Kumbi-Saleh in 1067-68 as essentially two towns, one Muslim and immigrant, and the other indigenous with traditional religious outlook.

Richard again says the town and the countryside in the old African set-up contained many internally self-governing communities within a single administrative and geographical entity. Yet the cohesion of lineal, ethnic, and religious groups within each quarter discouraged social deviance and promoted strong feelings of corporate responsibility.

The first new African towns were located at ports, their function being the transshipment of goods and the safe housing of expatriate and indigenous traders. Among the better known port towns are Abidjan, Accra, Conakry, Dakar, Dar es Salaam, Doula, Freetown, Lagos, Libreville, Mombasa, Monrovia, and Port Harcourt. Indeed, of the black African Countries that have coastal land, only Congo (Brazzaville), Congo (Kinshasa), and Kenya do not have their major town on a coast. Furthermore, many of the non-coastal towns are inland ports including Bamako, Brazzaville, Kinshasa and Niamey (Hanna and Hanna, 1971).

The fewness of the towns in Kenya, their small size and their location has historical origins. Before the establishment of the colonial administration, there were no towns in any recognizable sense in the interior of Kenya. There was no economic basis for urban settlements because the prevailing subsistence agriculture and stock herding did not give rise to any permanent trading centers. The social organization was diffuse and lacked those paramount rulers who elsewhere in Africa had gathered courts and towns around their residences. Only at the coast was there a society and an economy based on urban living. This represented almost entirely an alien importation and, although blending for over a thousand years, there is still a marked contrast between the urbanized Swahili and Arab world of the towns and small villages along the immediate coastline and the dispersed, rural and more self-sufficient society of the coastal Bantu, with which it is interlocked. The interior was isolated from the coast by a wide belt of harsh and arid bush country (the nyika) made more inhospitable to travelers by attacks from the Masai and the Galla (Morgan, 1969).

He continues to point out that the Kenyan Colonial government introduced an administration based on Provinces and Districts each centered on a settlement, the seat of a Provincial or District Commissioner, and generally known as the boma or town. Outside of the coast this was usually an entirely new creation, although in some cases the residence of a prominent chief (Mumias and Machakos) or an important marketplace (Ngong) had some influence. A location along the railway

line was obviously most convenient and within a few months of the line reaching Nairobi, the 'up-country' administration removed there from Machakos, 48 km away, which was not served by the railway. The major towns and Provincial headquarters of Nakuru and Kisumu are also sites where there was no settlement before the arrival of the railway. At these bomas /towns were the residences of the Provincial or District Commissioner and his staff, offices, law courts, police headquarters and perhaps an army detachment, and such innovations as a hospital and a post office. Schools and many hospitals, however, tended to be away from the boma at the mission stations.

Morgan further says that while the Kenyan economy has been essentially a subsistence one based on peasant agriculture, there has been no need for the development of service centers large enough to be called towns. The entire social systems of the people concerned have worked against any centralization and stressed attachment to the land. But the tribal systems are beginning to decay and, with the introduction of cash crops, a self-sufficient way of life is rapidly being replaced by an exchange economy. We can therefore expect the development of urban communities in some ways comparable with that found in the large-scale farming areas.

1.2 Problem Statement

Food is one of the most important basic needs of life. Food gives us energy, makes us grow and protect us from infections. Inadequacy of food makes people have poor health.

Provision of adequate food remains one of the greatest challenges of our Society. Indeed, it remains one of the greatest aspects of poverty among the people of the world. Poor food production leads to food insecurity. This in turn leads to malnutrition (Diana, 1995).

Increasing desertification, declining soil fertility, deforestation and loss of diversity have negative consequences to the livelihoods of the world's poor. Despite the environmental degradation, the food needs of the world's growing population must be met (Wangui, 2006).

There are several variables that may be attributed to food security like clearing of land for construction; land acreage; reduction in labour supply; government policy like availability of extension officers to advice farmers; poor infrastructure for transportation of food to urban areas; non affordability; poor communication; poor storage methods for foodstuffs; pests and disease attacks on planted crops or animals; availability of quality seeds; soil infertility; soil erosion; security; poor prices leading to supplier and farmer's apathy; natural calamities like wild fires and earthquakes; abandonment of food crop farming for other economic activities like cash crop farming; weather and climate changes, among others.

Food insecurity has negative social effects. It worsens poverty levels leading to increase in school dropout rates. It also leads to crime due to food theft; break up of families due to failure of the bread winner to provide for the family, malnutrition, queuing for long hours waiting for relief food rations, poor health and neglect of other basic needs in pursuit of food where some result to selling their basic possessions to buy food.

People who live in semi-arid areas used to know how to survive the hard times brought by droughts and famine. It is estimated that rain fed semi-arid areas of the world support more than 1 billion people, many of whom have been made more vulnerable to climate variability through poor political decisions. This is because politicians favour cash crops over staple food production, urban dwellers over rural societies and imported foods over domestic produce (Robin, 1991).

The author further notes that Africa is more prone to famine than any other continent in the world. It has also the most difficult climate of all the continents. Low rainfall received, and high insolation combine make Africa have the lowest

ration of run-off to precipitation in the world; that is, more rain evaporates in Africa before it even gets to a stream or a river than elsewhere. This is the reason farmers and cattle herders have hard times in the semi-arid regions, and it is also the reason where there are no canals in Africa. The total river runoff In Africa is about 20 per cent of rainfall, while in Europe it is more than 40 per cent.

In many cities in developing countries, hunger and malnutrition are common amongst the poor, even when food is relatively abundant. Over the past two decades, a considerable literature has accumulated on the problems associated with rapid urbanization in developing countries - a literature that for the most part has neglected the important dimension of urban food systems and how these link production and consumption networks at local, regional and global levels. Similarly, whilst there is a newly burgeoning literature on global food systems, the contextual role of the urbanization process is rarely addressed (Smith, 1998)

This study sought to fill some gaps left in the study about food security in a suburban area in regard to land use and general preferences on income generation. To the best of my knowledge, there hasn't been adequate research that has been carried out on this aspect.

1.3 Research questions

This is what informs the research to answer the questions about the study being undertaken.

The research aimed at answering the following questions:

- (i) What are the sources of food for suburban residents?
- (ii) What influence does urbanization have on farming and food security?
- (iii) What are the food security challenges faced?
- (iv) How are the challenges handled?

1.4 Objectives of the Study

1.4.1 The Main Objective

The goal of this study was, to establish the social dynamics of food security in a suburban area. These were to be met through the following specific objectives;

1.4.2 The Specific Objectives

These were to;

- (i) To establish the sources of food for suburban residents
- (ii) Establish the influence of urbanization on farming and food security
- (iii) To establish the food security challenges faced and how they are handled

1.5 Justification of the Study

The study was meant to understand the social dynamics of food security in a suburban area especially in regard to expansion of cities and towns. They are torn between the traditional rural way of life and the modern city lifestyle.

1.6 The scope of the study

The scope of the study focused on the source of food for the people living a suburban area. It sought to establish the commercialisation of their farmlands to plots and what that might affect food security.

Urban agriculture formed a focal point for this study because the people keep livestock like; goats, poultry, sheep, and cattle, among others. It was therefore critical to establish the source of food for these animals and how they share the diminishing land space in the suburban areas of the city of Nairobi.

The study also sought to know the different sources of food for the people living in the suburban areas. Some grew crops and kept animals in their farms, some bought the food from their neighbours' farms, and others got the food from far-away farms, while others got it from supermarkets, according to other sources.

1.7 Definition of Key Terms

1. **Food security** - Access by all people at all times to sufficient food to meet dietary needs for a productive and healthy life
2. **Social dynamics** - Social dynamics can refer to the behaviour of groups that result from the interactions of individual group members, as well to the study of the relationship between individual interactions and group level behaviours.
3. **Suburb** - A district lying immediately outside a city or town, especially a smaller residential community.
4. **Suburban** - Pertaining to, inhabiting, or being in a suburb or the suburbs of a city or town.
5. **Urban agriculture**- Urban agriculture is the practice of cultivating crops, animal husbandry, aquaculture, agro-forestry or horticulture in, or around, a village, town or city as well as in suburban areas.

2.0 CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The literature review presented here is based on past studies done on food security, urban agriculture, as well as expansion of cities and towns to form the suburban areas.

Past studies on food security indicate that the world's food security depends on several factors that range from natural to anthropogenic factors. Provision of adequate food remains one of the greatest challenges of our Society. Indeed, it remains one of the greatest aspects of poverty among the people of the world.

The world is capable of feeding decently all its inhabitants. That it is conspicuously not doing so at present is the product of not necessity but of choice (Wright, 1995).

Desertification refers to the process of which formerly productive lands become barren because of environmental pollution and climate change. Growing desertification in many parts of the world, especially sub-Saharan Africa, reduces food supplies and contributes to hunger (Glantz, 1995).

It is generally accepted that "food security" has three critical components: food availability, food access, and food use and utilization. Policies aimed at improved food security must address these three components (Kodamaya, 2011)

The author further says that food security has been discussed from two different perspectives: social protection and economic growth or development. It is difficult to draw clear boundaries between social protection and growth-oriented activities. It is more productive to explore some of the synergies or linkages between the two.

A comprehensive view of food security, that is, one that considers both food availability and food access, requires thinking toward a broader view of social

protection. Social protection serves three functions: protection, prevention, and promotion. A broader view of social protection implies a response to the wider sources of the vulnerability, risk, and deprivation that poor people face. A more complete view of social protection intervention to support food security includes production (target inputs), employment (food for work), and trade (food-price interventions such as consumer subsidies, adds Kodamaya.

The author continues to say that food security differs depending on the differing needs of the people/groups that are vulnerable to food insecurity. These people/groups are classified according to demographic categories, social categories (female-headed households, people with disabilities, etc.), or geographic categories (remote rural populations, among others).

Urban agriculture is a significant economic activity, central to the lives of hundreds of millions of people throughout the world. There is ample evidence that the potential of urban agriculture for food security is real. Only now is the full potential being tapped. The United Nations Development Programme estimates that while 15 percent of food worldwide is grown in cities, the opportunity exists to significantly increase this percentage (Brown and Carter, 2003).

This study aimed at filling the gaps made on the studies done about food security, and specifically sought to fill the gaps about food security in a suburban area.

The literature review is presented in seven main categories, namely;

- i. Urbanisation
- ii. Global Food security
- iii. Food security in a suburban area
- iv. The Kenya National Food Policy
- v. Socioeconomic dynamics of Food Security in Nairobi city
- vi. Theoretical framework
- vii. Conceptual framework

2.2 Urbanisation

It is defined by the United Nations as movement of people from rural to urban areas. The United Nations projected that half of the world's population would live in urban areas by the end of the year 2008. It is closely linked to modernization and industrialization. Urbanization can also refer to the rate at which the urban proportion is increasing.

The mass migration of peasants to the cities is a recent phenomenon common to most nations of the third world. As traditional modes of Agriculture stagnate, and the policies of land reform rarely provide any opportunities, the movement to the cities, with their growing manufacturing industry is seen as the only way of achieving a more modern way of life (Lloyd, 1980).

In regard to employment, urban wages are, on average, high by rural standards, but they are low when aspirations, needs and urban prices are taken into account. Where there is minimum wage legislation, as in Kenya, the basis of statutory minimum has usually been the requirements of a single male adult worker with a very small margin above physical subsistence, (Hanna and Hanna, 1974). They note that although the "Africans knew their standard of living was improving and was decidedly higher than in rural, a deep bitterness underlay their complaints about wages".

More so, Hanna and Hanna note that Africans resident in urban areas had to support friends and relatives who came to town looking for work but were unable to find it. They say that unemployment and underemployment are common, but were concealed and they cannot be measured on the basis of available data but there is general agreement that it's considerable. Perhaps the primary difficulty in measurement stems from the close link between rural and urban areas. Often, the un- or underemployed returns to his farm where he/she subsists and therefore is not counted as un- or underemployed by labour staticians.

Hanna and Hanna further point out that malnutrition in towns result from the combination of rural conditions and urban circumstances. The nutritional patterns

of in rural Africa, often seriously deficient due to poor education and the environment, may be transferred to town due by habit or custom. In addition, town life may contribute to malnutrition through: (1) convenience and availability of foods encourage a poor dietic balance; (2) Relatively few women come to town and thus they are not available to cook for men. On their own, many men without facilities or experience for preparing food often take what appears to be easy way out, which often happen to be malnutritious diet; (3) When wives are brought to towns they cannot cook because they take jobs. More so a working mother weans her child early; (4) The wages of urban dwellers are not sufficient enough to allow a healthy diet; (5) buying food tends to be alien to some cultures; (6) Sometimes the quantity of food is nutritious but the arrangement or number of meals contributes to malnutrition. Men usually leave the house early and not return until late at night, going without food in the interim.

Heavy rural-urban migration involves social costs. In a sense, rank -and-file Africans living in poverty pockets are 'displaced persons' suffering from dislocation of the modernization process. Unfortunately, 'the cities' are the unprepared recipients of a stream of population from the land. The existence of 'displaced persons' in an urban area is from one point of view, quite costly to the modernizing nation state. Public resources are allocated without the appropriate productive return to main the displaced persons in their marginal life to prevent them from rioting against the state or stealing from other citizens. In sum, the argument is that contemporary urbanization may have a poor cost-benefit ratio (Hanna and Hanna: 101).

2.3 Global food security

World food systems are marked by a tendency to underplay the specific role of urbanization within both global and local trends, and then the literature on the urbanization process itself exhibits an even greater neglect of this most basic of human needs. This is not to state that food does not feature in any form in the voluminous discussion on urbanization, rather that it is considerably under-emphasized, even in discussions on urban health, which is still primarily, although

not exclusively, studied in relation to the residential environment. The few instances in which urbanization and food systems have been drawn together on a comprehensive, policy-orientated basis (rather than in a focused empirical study) tend to be comprehensive overviews in which food is discussed in terms of its links to household economy, health and nutrition (see IFPRI 1996), but in which the political economy of food systems as they relate to the city is seldom discussed (Smith, 1995).

Contrary to popular opinion there remains considerable evidence of food production in Third World cities, particularly in terms of vegetables, fruit and small livestock. Most urban agriculture is small-scale and intensive, and yet can be very successful in meeting the needs of urban residents. In several large Chinese cities, over 85 per cent of the vegetables consumed by their populations are grown within the municipal boundary. However, Chinese cities are notoriously extensive in their administrative areas and encompass what in other countries would be thought of as peri-urban and even outright rural areas (Drakakis-Smith, 1990).

He continues to add that elsewhere; intensive production can still provide Singapore with 25 per cent of its vegetable needs and almost all of its pork, eggs and poultry requirements. Indeed, several researchers on African urban food production suggest that it is on the increase although as yet the evidence for this increase is still patchy. However, not all urban agriculture comprises subsistence production. Much of the output would be for the commercial market either through petty or fully-capitalized production systems receiving state support. The implication here is that 'subsistence' relates to production and consumption which occur outside the market economy, a direct production to consumption linkage within the house-hold that was considered to be more typical of rural areas, particularly of pre-capitalist systems.

Accounting for the comparative importance of subsistence food to the household is also complicated by the fact that the household members engaged in its

production may undertake several other roles in relation to both production and reproduction. Therefore, the growing of crops may be an evening task for both school children and adults after working in the capitalist or petty-capitalist sector of the urban economy. Similarly, although much of the genuinely subsistence food production, which is directly consumed by the producer-household, comes from urban gardens that may not be owned by the producer himself. Indeed, most of the evidence available indicates that illegal or semi-legal cultivation is an equally important, adds Dukakis-Smith.

Given the high likelihood that food will be available in world markets for anyone with buying power in the foreseeable future, perhaps it is not surprising that accessibility is the major constraint to food security. The very young, the elderly, landless peasants, smallholders and hired agricultural workers often are poor and lack access to food. Most food-insecure people live in rural areas of developing countries. It is important to emphasize that food consumers outnumber producers in every country, hence arbitrarily raising food prices above market levels diminishes rather than enhances food security even though food producers gain. Nonetheless, raising access to food by increasing productivity and real incomes of food-insecure people remains the principal route to food security (Tweeten, 1999)

Tweeten further says that because the poor are the ones most likely to lack access to food, alleviating food insecurity means alleviating poverty. Most of the world's poor, with incomes of less than \$1 per day will have to escape poverty and food insecurity through economic growth. Economic growth largely was responsible for the reduction in number of undernourished people in East, South, and Southeast Asia.

Institutional requirements for food security are not static. The traditional society, with low population density and without much competition for resources differ from today's high-density populations placing major pressures on resources. Native Americans several centuries ago were poor by today's standards but many

were food secure as hunters and gatherers in a land of abundant wild game and plant foods. Today however, a combination of high population density, general poverty, and absence of property rights causes the "tragedy of the commons," damaging to the environment and food security, adds Tweeten.

He further notes that although democracy is not essential for rapid economic growth as evident in several East Asian countries, it is a positive force for food security to the extent that it creates an orderly succession of leadership useful for business planning. A multi party system can expose corruption and provide checks and balances.

The reaction of the urban authorities to illegal cultivation has varied enormously through time and across space, even between cities within the same country. It has been observed that in Lusaka, Zambia, the authorities operated repressive tactics for many years, blaming urban cultivation for increased incidence of malaria, growing numbers of street-vendors, traffic congestion and generally spoiling the beauty of the city. By the 1980s, however, as national indebtedness increased, the government began to urge people to grow their own vegetables and cereals. In general, the authorities in most Third World cities still look upon urban cultivation as a relic of a traditional way of life that has little place in a modern city although they recognize the fact that it performs a valuable role in the diet of the poor. However, are periodic purges of peripheral cultivation whenever it is felt to be necessary? Moreover, in the normal course of events subsistence cultivation is usually squeezed out by advancing commercial capital interests, whether agricultural or constructional (Drakakis-Smith, 1990).

One example of a powerful shift toward urban agriculture worldwide, especially in response to economic crises, is found in Russia. Food production on large-scale rural farms fell by 40 per cent when the Soviet Union was disbanded; making the cost of food on the new, free market very expensive. Many Russians have since been allowed to use idle and provisional land in urban areas to create a new

production and distribution system. The use of this land produces 30 percent of the total food grown in the country and 80 percent of the vegetables. Between 1970 and 1990, the number of Moscow families engaged in food production increased from 20 to 65 per cent (Brown and Carter, 2003).

People living in extreme poverty are sometimes defined as those who are unable to secure enough food even if all household income were spent on food (Ellis et al., 2009). The destitute comprise households who live in extreme poverty and experience unusually high vulnerability to hunger. The Kalomo scheme in Zambia introduced the notion that the destitute constitute about 10% of that country's population. The Kalomo scheme stated that 10% of households have per capita food consumption under 1,400 Kcal per day and that most lacked able-bodied labor (Ellis et al., 2009). Destitution is regarded as a criterion determining eligibility for social transfers (Kodamaya, 2011).

2.4 Food security in a suburban area

Cities and towns are constantly expanding by growth of new areas around them. The term used to describe the growth of areas on the fringes of major cities is what is referred to as suburbanization.

These phenomena can be linked to a number of different 'push' and 'pull' factors. Push factors include the congestion and population density of the cities, pollution caused by industry and high levels of traffic and a general perception of a lower quality of life in inner city areas. Pull factors include availability of open spaces and the perception of being closer to countryside and the fact that lower suburban house and property prices in comparison to the city.

Food security and food availability can be considered at two different points: One is urban areas, where food crops are not produced and residents are principally not food producers; the other is rural areas, where the majority of residents are small-scale farmers who are both food-crop producers and food consumers. Urban

resident food security and that of rural residents who are not food self sufficient depends on surplus food crops produced by farmers (Kodamaya, 2011). The author adds that small scale farm production can influence food security in two ways: First, it influences small-scale farmers' household food self-sufficiency (whether they can produce a sufficient amount of food crops for their own consumption); and secondly, it influences national food security (production of surplus food crops for urban residents and rural residents who are not food self-sufficient).

Food access is an important public policy issue across United States of America (USA), especially so in urban areas. The United States House Select Committee on Hunger studied shopping patterns of the poor and found that urban dwellers pay more for groceries in their local neighborhoods than do suburban residents. Others found that income affected access to rural and urban grocery stores and food varieties available for purchase and realized that residential areas where low-income households are located had fewer supermarkets and a smaller variety of foods, compared with what was available in wealthy areas. Low-income households that are unable to access the normal food system, because of store locations and income constraints, are at risk of hunger and poor nutritional outcomes (Garasky et al, 2004).

Even when cash is available to low-income urban residents, food is not always accessible. Many supermarkets have closed or moved from the inner-city due to complex market forces related to the increasing impoverishment of their clientele and the deterioration and depopulation of once vibrant communities. Because many inner city residents do not own cars, transportation to suburban food stores is often difficult, requiring several bus changes or expensive taxi services. If one has small children, is disabled or elderly, food shopping can become a great hardship (Brown and Carter, 2003).

A study of all food stores in three low-income zip codes in Detroit found that only 19 percent, or fewer than one in five stores, carried a minimal "healthy food basket" (products based on the food pyramid). Merchants tend to leave perishable food on the shelf longer, compromising quality and safety, further limiting customers' choices for nutritious and affordable meals. Many inner-city grocery and convenience stores charge higher prices for even basic food items. People on limited incomes in cities are likely to pay more for their food than wealthier shoppers in higher income suburban neighborhoods, adds Brown and Carter.

The authors further add that as city populations spread into adjoining suburbs, inner-city buildings have been abandoned or demolished. For example, in the United States, Chicago has an estimated 70,000 vacant parcels of land; Philadelphia has 31,000; and Trenton has 900 acres or 18 percent of its total land. Between 1950 and 1990, abandoned lots in inner-city areas remained vacant for 20 to 30 years. Failed businesses and homes were bulldozed, leaving relatively inexpensive lots without much economic potential. Urban agriculture is an alternative to vacant lots that immediately yield multiple benefits. The U.S. General Accounting Office identified 130,000 to 425,000 contaminated vacant industrial sites, or brown fields that could be safely converted to agricultural purposes when properly redeveloped. City revitalization efforts which include urban agriculture have a regenerative effect when vacant lots are transformed from eyesore dangerous gathering places into beautiful and safe gardens that feed peoples' bodies and souls.

Again, the authors note that some commercial farms are close to the suburbs. Farmers can develop relationships with suburbanites that will help them achieve their long term goals. However, they emphasize that urban farming, provided food is produced, stored and distributed food in an ecologically sound and sustainable manner, can supply much more healthful food than is offered by industrial agriculture and supermarkets chains. Fresh produce, free-range poultry, and grass-fed lamb are a source of nutrition for urban consumers is a response to

concerns regarding excessive use of antibiotics and treatment of animals in the dominant food system. However, there are particular health challenges connected to farming in the city. For example, urban soils can be contaminated with heavy metals such as lead. Certified organic farms must have some distance between a production area and a site of possible contamination.

In my opinion, I believe that urban agriculture will go a long way in supplementing the food supplied from the rural markets. Indeed, it assists in stabilizing food prices and this benefit the poor in the society. In other words, it stabilizes the demand and supply market forces. More so, it is a way of earning the extra income or making the much sought saving for the urban and suburban residents because they can get some food from the farming.

2.5 The Kenya national food policy

Until recently, food and nutrition activities in Kenya have been the responsibility of organizations and agencies. These efforts were not sufficiently co-ordinated. The need for co-ordination has been stressed repeatedly during the Government Development Plan period 1980-1984. Food and nutrition were to be integrated into the overall policy to ensure better health, and increased economic gains from food nutrition (Jansen, et al, 1987). The authors note that earlier, during the 1979-1983 plan periods, the Government identified the alleviation of poverty as a central objective. It was recognized that poverty has several dimensions, including inadequate income and malnutrition.

The Kenyan Government has been blamed for not having a clear food policy. However all is not lost and a review of the past Government documents shows that the government has been having a National Food Policy. Probably, what is lacking is the implementation bit. The policy emphasizes that to cater for the urban poor, increased employment opportunities would have to be realised.

Further, the authors note the National Food Policy would concentrate on the following target groups: The pastoralists, small scale farmers, landless rural workers, the urban poor, and the handicapped.

2.6 Socioeconomic dynamics of Food Security in Nairobi city

Food supplied to the city is in abundance even in times the rest of the country is facing famine. This is because not all rural areas that supply food to the city experience drought conditions at the same time.

The rural peasants (farmers) are the ones who produce that food which feeds the town with supplies of maize, potatoes, cabbages, sukuma – wiki (kales), oranges, onions, beans, green-grams, cowpeas, tomatoes, meat, and milk, among others. These food stuffs are in high demand in Kenya's urban centres such as Nairobi, Kisumu, Nakuru and Mombasa (Odegi – Awuondo et al, 1994).

The authors note that three factors are important for the survival of the urban dwellers: The peasants must produce enough for themselves and enough to sell to towns; the price of the food commodities must be cheap enough to enable the poorly paid urban workers, the unemployed and the self employed to afford them; the transportation system has to be in good shape to facilitate the movement of these commodities to towns uninterrupted and cheaply. Furthermore, the authors say that the most difficult problem placing Nairobi under siege is the escalating prices of food and essential commodities.

Migration into towns is subject to both a 'pull' and a 'push' factors. The push is the lack of opportunity in the countryside. In economic terms this is the problem of rural unemployment or under-employment. With population increasing at the rate of 3 per cent a year, and with some 1, 600,000 persons at rural densities in excess of 290/km² (less than one acre per person), it may be expected that agricultural unemployment will increase. However, rural unemployment is not yet as great a problem as it had been feared. This may be attributed in part to the effect of

settlement schemes (both in the former White Highlands and elsewhere) that has led to increased employment offered by the improvement in peasant agriculture (Morgan, 1969).

He further says that the economic 'pull' of the towns is of employment and higher wages. To some extent these counteract each other in that increasing wages in Kenya has probably led to a more careful and efficient use of labour in recent years, so limiting the amount of employment available. There is some hope for an increase in urban industrial employment following upon tariff protection to encourage 'import substitution' and the slow expansion of the market based on the extension of cash crops. On the other hand, industry in Kenya is suffering from the actions of the Governments of Tanzania and Uganda in prohibiting many imports from Kenya in order to encourage their own industries.

A study on Household Food Security among Urban Farmers in Nairobi, Kenya, notes that farmers in Kenya's urban areas do not get government support through agricultural extension services. Therefore, there is no clear policy to address urban agriculture in the country. In that study, it was noted that "residents of Kamae (a suburban area of Nairobi near Kahawa West) had lived in slum conditions, but in the year 2001 they were allocated small landholdings by the local administration of the Government of Kenya. Prior to the start of this research project, observation indicated that these landholdings could potentially increase the diversification and intensification of food-production systems. A baseline survey conducted between June and July 2005 revealed none of the 300 respondents surveyed had received any form of organized agricultural training. Therefore, no organized farming was observed. Because the extension service of the Ministry of Agriculture and Livestock and Fisheries Development was farmer-driven, only more prosperous farmers sought crop and livestock extension services. As a result, the majority of poor farmers in Nairobi manage on their own, getting no assistance or advice, which is necessary for the enhancement of their food production skills

particularly in the diversification of agricultural systems (Foeken and Mwangi, 2000)".

2.7 Theoretical framework

This is important in informing research so that it falls under particular theory or theories. It is therefore important this comes out clearly in the research. The following theories informed my study;

2.7.1 The Micro sociological theory of the urban and rural societies

There are several branches of sociology. The one that is concerned with the nature of everyday human social interactions and agency on a small scale is known as micro sociology. It is based on interpretative analysis rather than statistical or empirical observation, and shares close association with the philosophy of phenomenology (life's experiences). Micro sociological methods includes: symbolic interactionism and ethno methodology (methods and practice of life). It contrasts with macro sociology which concerns the social structure and broader systems of a society.

The Micro sociological theory of the Urban and Rural societies tells of the day –to – day way of life that has contrasting values, lifestyles, perceptions, relationships, tasks and interpersonal relationships between the two societies – the rural and the urban. In addition to that, it is critical to note that the suburban residents' way of life is a blend between the two. This theory therefore, will be useful in explaining the social dynamics (agency) of the people who live in suburban areas as opposed to the social structure of the suburban society as a whole.

There are a number of scholars that have studied this theory. These are: Ferdinand Tonnies (1855-1936) and Georg Simmel (1858-1918) who were both German pessimists (perceives life negatively) and Emile Durkheim (1858-1917) who was French optimistic (perceives life positively).

2.7.1.1 *The Pessimists*

2.7.1.1.1 *Gemeinschaft (community)*

Ferdinand Tonnies said that life in rural village is characterised by a unity of purpose, people work together for the common good, they are united by ties of family (kinship) and neighbourhood, land is worked communally by inhabitants. Social life is characterized by intimate, private and exclusive living together, members are bound by common language and traditions, they recognize common goods and evils, they have common friends and enemies, and have a sense of togetherness, and that they are also humane.

2.7.1.1.2 *Gesellschaft (association)*

Tonnies said that it is characterized by a large city, life is characterized by disunity, there is rampant individualism and selfishness, meaning of existence shifts from group to individual, life is rational, calculating, and that each person is understood in terms of a particular role and service provided. People are divided despite all

Gemeinschaft people are united in spite of all separating factors, while in Gesellschaft people are separated in spite of all uniting factors.

2.7.1.1.3 *"The Metropolis and Mental Life"*

Georg Simmel (1858-1918), considered the importance of urban experience, and chose to focus on urbanism (life within the city) rather than urbanization (development of urban areas). "The Metropolis and Mental Life" is an essay detailing his views on life in the city, focusing more on social psychology. He says that the unique trait of modern city is intensification of nervous stimuli with which city dweller must cope; from the rural setting where rhythm of life and sensory imagery is slower, habitual and even, to city life with constant bombardments of sights, sounds and smells.

Simmel says that an individual in an urban setting learns to discriminate, become rational and calculating, develops a blasé attitude – matter-of-fact, a social reserve,

becomes detached, responds with head rather than heart, have a 'don't care and don't get involved' attitude. Urbanites also become highly attuned to time; their sense of rationality is expressed in advanced economic division of labour, the use of money as a requirement for a universal means of exchange as opposed to barter exchange, and maintains a sense of individuality and desire to do something different or odd to stand out.

2.7.1.2 *The Optimists*

Emile Durkheim (1858-1917), considered the social structure of city and the village. He emphasized on Social solidarity (the bond) between all individuals within the two societies. He developed model of contrasting social order types where both types are natural. These are:

2.7.1.2.1 *Mechanical solidarity*

He refers to these as social bonds constructed on likeness and largely dependent upon common belief, custom, ritual, and routines. He adds that people are identical in major ways and therefore united almost automatically, and social cohesion is based upon the likeness and similarities among individuals in a society. It is common among prehistoric and pre-agricultural societies, and lessens in predominance as modernity increases.

2.7.1.2.2 *Organic solidarity*

Durkheim says that it is social order based on social differences, a complicated division of labour where many different people specialize in many different occupations, greater freedom and choice for city inhabitants despite acknowledged impersonality, alienation, disagreement and conflict, and it undermined traditional social integration but created a new form of social cohesion based on mutual interdependence. Social cohesion is based upon the mutually dependent individuals on each other. It is common among industrial societies as the division of labour increases. Though individuals perform different

tasks and often have different values and interests, the order and very survival of society depends on their reliance on each other to perform their specific task.

2.7.2 Sub urbanism

A suburb is a residential area surrounding a city that is within commuting distance of a city or a big town. They generally have lower population density than the city itself. They are more serene and therefore some people regard life in the suburbs more superior than life in the city or the country. The suburban areas have more social amenities and better infrastructure compared to the countryside

The complex issue of suburbanization is not addressed by any specific suburbanization theory. Indeed, attempts made to articulate the complex social possibilities of suburban areas have been easily caught between theories of urbanisation that do address suburban areas specifically. A clear suburban theory would go a long way in addressing the one-dimensional (rural/urban) approaches to built environment by focussing on social and organizational dynamics of emergent built environmental form apart from the urban or the rural (Vaughan, 2009)

Residents of the various types of settlement do not fall on a neat continuum of urbanism from country to town to suburb to city. The dominant pattern is simply a city-noncity differentiation, although there are a few anomalies. These suggest that urban theories have limited usefulness for understanding urbanism among suburbanites, but they also reveal so little evidence of suburban distinctiveness that it may not require a unique explanation beyond that is needed to account for simple urban-non urban differences (Charles and Mark, 1992)

Americans have come to assume that that the ideal form of shelter is the single-family home with a garden and plenty of open space situated in a locally controlled sub-urban community. Indeed, many Americans identify suburban lifestyle with the American Dream itself (Mary, 1991). She notes that historians have focused a

good deal of attention on the history of suburban design and development. The standard treatments focus concentrate on the formal and regional stylistic designs of certain architectural suburban houses.

I should make it clear that I could not get a specific theory that addressed sub urbanism fundamentally. Indeed, most books I read were complaining of the same.

2.7.3 'Risk Society' theory

What is the response to this question, "*How does modern society respond to risk?*" The answer is that the modern society is confronted by complex risks which require several mitigation mechanisms. 'Risk Society' theory, therefore, explains how modern society responds to these risks.

The theory is associated with two key writers on modern society and its associated theme of modernity. These are: Anthony Giddens and Ulrich Beck.

Beck notes that modernity is a world that introduces global risk parameters that previous generations did not face. Precisely because of the failure of modern social institutions to control the risks they have created, such as the ecological crisis, risk rebounds as a largely defensive attempt to avoid new problems and dangers (Elliot, 1992).

More so, Elliot notes that;

"Beck contends that it is necessary to separate the notion of risk from hazard or danger. The hazards of pre-industrial society – famines, plagues, natural disasters – may or may not come close to the destructive potential of techno science in the contemporary era. Yet for Beck this really is not a key consideration in any event, since he does not wish to suggest that daily life in today's risk society is intrinsically more hazardous than in the pre-modern world. However, no notion of risk is to be found in traditional culture. Pre-industrial hazards or dangers, no matter how potentially catastrophic, were

experienced as pre-given. They came from some 'other' – gods, nature or demons. With the beginning of societal attempts to control, and particularly with the idea of steering towards a future of predictable security, the consequences of risk become a political issue.

There are societal interventions that transform incalculable hazards into calculable risks. 'Risks', notes Beck, 'always depend on decisions – that is, they presuppose decisions'. The idea of 'risk society' is thus bound up with the development of instrumental rational control, which the process of modernization promotes in all spheres of life – from individual risk of accidents and illnesses to export risks and risks of war."

The current city and its metropolitan area (suburban) set up are based on the modernity. The modern city has been pre-occupied by growing concerns like: food security, crime, inadequate infrastructure and social amenities, unemployment, under-employment, environmental degradation and its associated negative consequences, mushrooming of slums, among others.

Dumping of solid waste and its associated risks is one of the major examples of how urban/suburban society face risks, yet they can do little about it. In deed man is a risk to nature, while sometimes nature is even a bigger risk to mankind when catastrophes or disasters (like cholera in this case) strike.

"Risk Society' theory therefore is valuable to explain how suburban dwellers respond to risk especially the fact that no person has been reported of dying of hunger in the city and yet some are very poor. More the expanding city brings its associated risks like crime, insecurity, truancy, corruption, high cost of living, culture shock, dumping of wastes, poor drainage, among others..

Most of the risks associated with 'Risk Society' theory are manmade and the mitigation factors need to be people driven. Governments, civil organizations, the

religious community, learning institutions, the family, and the common man, among others are all concerned with the modern day risks that emanate from modernization.

According to Beck, 'Risk Society' is a systematic way of mitigating the hazards and insecurities that originate from the process of modernization.

2.7.4 Globalization

Globalization involves a worldwide integration of economic, social and political issues. It ensures policies, knowledge, technology, among others are shared across borders on a free market (Nayef and Al-Rodham, 2006). By its nature, therefore, globalization spans a multitude of cultures, disciplines and communities.

Food security, for example, is a global issue. It is addressed at the highest levels of Governments and international organization like the U.N. which has specialized agency called Food and Agriculture Organization (FAO) to address food security. Countries respond to distress calls of famine when fellow countries are famine stricken through food aid. This is a consequence of sharing brought by the world being a 'global village' or simply as globalization. It, therefore, refers to the process by which social institutions become adopted on a global scale.

International economies, societies, and cultures have become integrated through a global network of communication, transportation, trade, political, diplomatic and technology. In fact food produced in foreign countries is sold in our local country including our cities and towns.

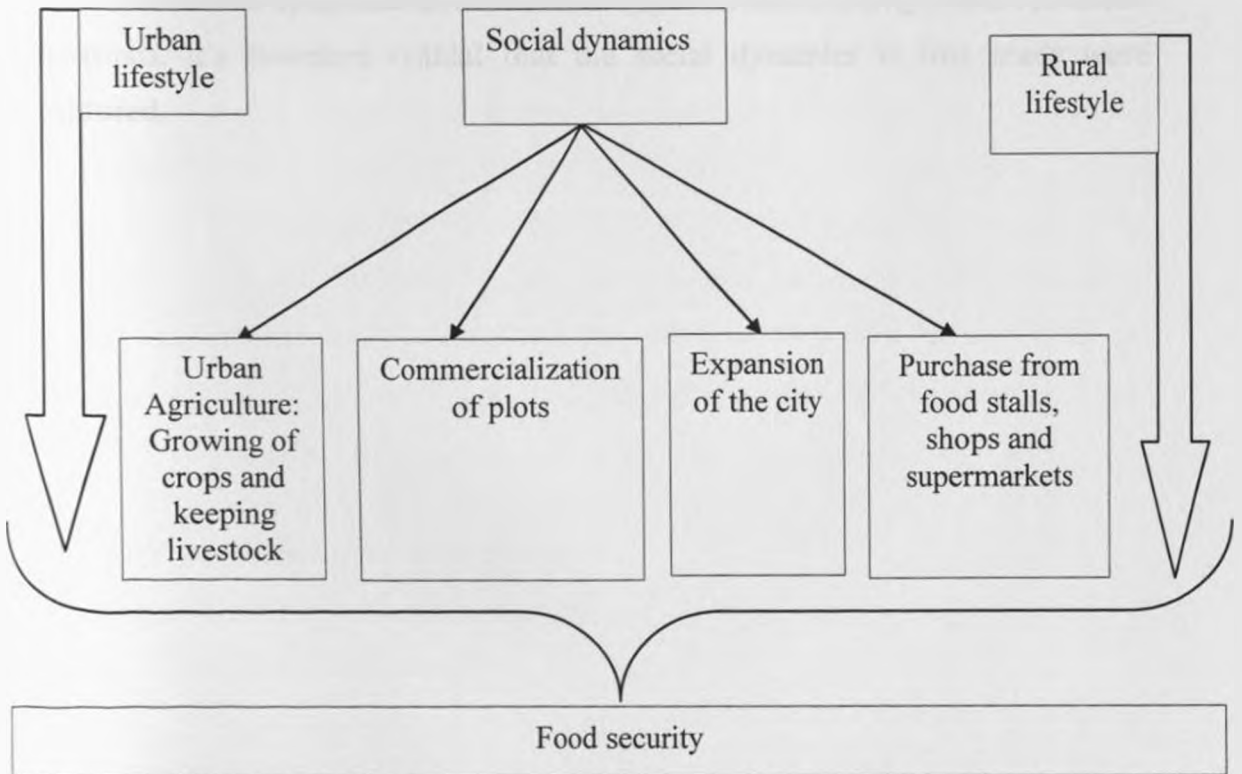
An issue is no longer perceived as being local but rather taken as a concern for international community. *'Think globally, act locally'* is a statement that emphasises that we should base our local actions and decisions on experiences at the international stage.

When poor countries like Kenya face famine, their governments appeal to the international community for relief food to alleviate hunger.

2.8 The Conceptual framework

This research was aimed at showing the social dynamics about food security in suburban areas. The figure below shows the conceptual framework on which this research was based upon.

Figure 2.1: Conceptual framework



The above figure shows the social dynamics at play that influence food security in a suburban area. The major dynamics are; on one hand, there are the effects of expanding urban lifestyle, while on the other hand there are the diminishing influences of the rural lifestyles to the peripherals of a city or a major town regarding food security. The suburban residents are torn between the new

modern urban lifestyle and their traditional rural way of life especially in regard to agriculture.

As earlier noted in this study, it is generally accepted that “food security” has three critical components: *food availability; food access; and food use and utilization*. Therefore, these are addressed through urban agriculture that is characterized by growing of crops and keeping livestock in the city, town or the suburban area. However, under the pressure of the expanding city; some farms have been commercialized (divided) and subdivided into plots and sold. The income raised then might be used to purchase food from shops and supermarkets.

The above social dynamics have an overall effect on food security in the sub-urban locations. It’s therefore critical that the social dynamics in this study were captured.

3.0 CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter deals with research methods and tools that are used in obtaining and analysing the data for the research work.

Research refers to the search for knowledge (Kothari, 2004). He says that research is a scientific and systematic search for pertinent information on a specific topic. Research therefore is an art of scientific investigation. It's a movement from the unknown to the known.

Research methodology is important to give the researcher a clear working formula when s (he) goes to the field to collect the data so as to determine the selection of sample size and the sampling procedure. It is also used when carrying out the data analysis.

This chapter therefore deals with site selection and description, unit of analysis, sampling procedure, and sampling design, methods of data collection, and tools for data collection, data analysis and the challenges encountered by the researcher during the research.

3.2 Site selection and description

This study was done in Dagoretti Constituency, Nairobi County. Dagoretti is one of the suburban areas of Nairobi City.

Dagoretti Constituency has a population of 327,117 people (Kenya Census, 2009) with males comprising of 164,949 while females comprise 162,167 of the total population. The main income generating activities are industrial labour, construction, small scale traders, carpentry, matatu industry, masonry, and subsistence farming.

There is the urban and the rural Dagoretti. The urban Dagoretti comprises of Kenyatta/Golf course, Dagoretti Corner, and Kawangware towards Satellite.

The rural/suburban Dagoretti comprises of Muthama, Kabiria, Riruta, Waithaka, Uthiru among others. My study concentrated on rural Dagoretti.

I sampled the three locations of Riruta, Waithaka and Uthiru because they are suburban. Rural Dagoretti is a place where the modern urban life meets old traditional way of life. Some farming takes place there, while some of the people source for food from the food markets within the city or from their far-away farms. The food markets include Wakulima and Gikomba market where foodstuffs are sold at a wholesale price.

The study involved the sampling of the population of rural Dagoretti Constituency. The sample comprised of farmers, traders, Government officers, religious leaders, and any NGOs/CBOs working in the area. Residents of Dagoretti earn their living through formal and informal sectors of the economy.

The researcher observed that the predominant people in Dagoretti are the Kikuyu ethnic community of Kenya. This means that the food culture is basically Kikuyu. The local food names in the area were also mainly Kikuyu.

3.3 Sampling Design Frames

All units in any field of inquiry constitute a universe or population. A sample design is therefore a definite plan of obtaining a sample from a population/universe. It refers to the procedure and technique that the researcher adopts in selecting the items for the sample (Kothari, 2004).

This refers to the process of selecting part of the population known as a sample from which data is collected and then used in the research to generalize /

represent the population. Usually, the population is quite large and therefore cannot be wholly covered for research purposes.

Researchers work with samples obtained from the larger part the population being researched on. According to Kothari, a sample is a small part of the population that is examined to make generalizations about the universe. This is done with the assumption that the sample data will enable the researcher to estimate the population parameters.

Kothari further says that the items so selected constitute what is technically called a sample, while their selection process or technique is called a sample design, and the survey conducted on the basis of the sample is called a sample survey. The sample should be representative of the population characteristics without any bias so that it may result in valid and reliable conclusions.

The researcher used probability sampling technique, also known as 'chance' or 'random sampling' as a sampling design where every item in the universe has an equal chance of inclusion in the sample. Therefore sample units were picked up from the whole population not deliberately but by some mechanical process. Its only blind chance alone that determines whether one sample or the other is selected (Kothari, 2004).

I aimed for **at least 45 households** from each of the three suburban locations that I sampled as my sample frame. I aimed to interview the head of each household. These locations sampled were Riruta, Waithaka and Uthiru.

Each element in the population sample frame had an equal chance of being selected to represent the population, Singleton et al (1988) under the random sampling frames selected. This type of sampling employs strict probability rules in which every unit of the population sample frame has an equal, calculable, and non-zero probability to be selected in the sample. It allows computation of accuracy of

selection, and offers a high degree of representativeness. The advantages of random sampling frames are that;

- (i) Each element in the population sample frame has an equal chance of being in the sample;
- (ii) All choices are independent of each other;
- (iii) It gives each possible sample combination of an equal chance of being selected

My sample was selected through systematic sampling technique where every *i*th respondent of the households was selected in the sample frame in each of the three rural locations. An element of randomness was introduced by using random numbers to pick up the respondent with which to start.

3.4 Size of the sample

This refers to the number of items to select from the universe to constitute a sample (Kothari, 2004). The size of the sample should neither be too small nor too large. It should be optimum so that it satisfies the requirements of efficiency, representativeness, reliability, and flexibility. More so, budgetary constraints must be considered when determining the sample size.

The sample size constituted 140 households of Dagoretti Constituency, eight key informants and two Focus Group Discussions of approximately 8-12 people each.

3.5 Methods and Tools of Data Collection

The researcher would like to highlight the methods used in the study together with the tools used for each method. These methods and their tools are discussed as follows;

3.5.1 Household Interview

This is a method that refers to interviews administered to households in the study area. I used a structured questionnaire as a tool to carry out the interview. It was

filled by the respondents selected through the systematic probability sampling of the households.

The structured questionnaire tool has the same set of questions for the different households for the household interview. This ensured that each interview is presented with exactly the same questions in the same order. The answers were then reliably aggregated and analysed and then comparisons were made.

The questionnaire was administered to the selected sample households in Dagoretti Constituency. It was administered to the respondents according to the sample selection design adopted.

3.5.2 Key Informant Interview

The study also involved key informant interview as a research method to generate data from key personalities who are knowledgeable in the area of study. Five personalities were to be selected and interviewed using the key informant interview guide as the tool for collecting the data.

The key informants were the area District Officer, Member of Parliament (MP), and a Nairobi city council official, an Agricultural Officer, one prominent farmer, one religious leader, a NGO and a CBO. Their responses gave an insight of urban agriculture and its relationship to food security.

3.5.3 Focus Group Discussions

A focus group is a qualitative research in which a group of people are asked about their attitudes, perceptions, beliefs and, opinions towards a particular issue in their lives. The group is interactive group and questions are asked where the participants are also free to talk with other group members.

I had two Focus Group Discussions of 8 - 12 members who were purposively selected. One group was for men while the other was for women. There were two

note takers. The notes were then compared and data analysed thematically. I used a Focus Group Discussion Guide as a tool to facilitate the study. The discussion took approximately one hour.

3.5.4 Observation

I used this method to observe the farms, livestock, land size, subdivision of land to create commercial plots. I had an observation checklist as a tool to assist and guide me in the research.

3.5.5 Desk review

This refers to collection and review of secondary data. In my study, I sought for the data from the Ministry of Agriculture in Nairobi. I was interested in the food production data and the quantities and varieties of food produced from Dagoretti.

3.5.6 Case study

It is a very useful method to use when you find an interesting case in my field work. A case study is an analysis of a person, project, decision, event, period, policy, an institution, or any other system that is studied holistically. This is studied and then discussed in detail.

It helps a researcher to gain a sharper understanding of why the instance happened, and what might become important to look in more detail in a future study about the same. It gives an in-depth analysis of the issue under the case study which can then be a future research topic.

3.6 Data Analysis

Data Analysis is the process of modelling data collected with the goal of highlighting useful information, suggesting conclusions, and supporting decision making.

The data in my study was both quantitative and qualitative in nature. The qualitative data was analysed by textual analysis, conversational analysis, and trend analyses. On the other hand, I analysed the quantitative data using descriptive statistics that comprised of percentages, mean, mode and median. Subsequently, I made appropriate inferences.

4.0 CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter deals with the data analysis, its interpretation and the presentation of the findings based on the research objectives. It begins by presenting the summaries of the collected data.

The data collection was done from 15th – 30th March 2012. It is both quantitative and qualitative in nature. The qualitative data is analysed by textual analysis, conversational analysis, and trend analysis. On the other hand, the quantitative data is analysed and presented using descriptive statistics that comprise of percentages, mean, mode and median. Subsequently, appropriate inferences were then made.

4.2 Demographic Characteristics of the Respondents

4.2.1 Sex

In this research 54% of the respondents were men while 46% were women. This gave an almost balanced response. This is important because men's and women's opinions differ on the various issues that pertain to urban farming and life in general. I noted that most men were willing to fill the questionnaire more than the women. This is because women were generally shy when giving out their personal information.

4.2.2 Age

The table below shows the distribution of the respondents across various age brackets. There were 15.1% of the respondents aged between 18-25 years. This implies that the study captured a significant number of the youth whose views are very useful. Out of the respondents, 19% comprised of those aged 26-35 years, 24.0% lay between 36-45 years which is the middle aged group. Those aged between 46-55 years comprised 19.8%, while the older generation of 56 years and above of the sample comprised 21.4% of the respondents.

Table 4.1: The age of the respondents

Age (Years)	Frequency	Percentage
18 - 25	19	15.1
26 - 35	24	19.0
36 - 45	31	24.6
46 - 55	25	19.8
56 and above	27	21.4
TOTAL	126	100

The above information implies that all the people sampled were mature enough to understand the questions in the questionnaire to give a worthwhile feedback.

4.2.3 Marital status

The data on table 4.2 below shows the analysis of the distribution of the respondents in regard to their marital status. I found out that 39.7% of the respondents were married, 19.8% were single, 15.1% were divorced, 7.9% had one of their spouses who had died, and 17.5% were separated.

Table 4.2: The marital status of the respondents

Marital status	Frequency	Percentage
Married	50	39.7
Single	25	19.8
Divorced	19	15.1
Widow(er)	10	7.9
Separated	22	17.5
TOTAL	126	100

4.2.4 Occupation

The highest percentages of the respondents were doing some kind of farming that they regarded as their main occupation these were; 34.1% of the sample. Those respondents who worked in the public service were 5.6 %, while 2.4% worked in religion related jobs, 11.1% were business persons, and 6.3 % were employed in the private sector as skilled workers, while 20.6% were employed in the private

sector as non-skilled workers. The students comprised of 11.9%. In total, 116 respondents gave their occupation against the 126 who were sampled.

The researcher noted that 10 respondents did not give their occupation. Their response was that they did various kinds of short term tasks that generate their income. This included; house painting, pulling carts (*mkokoteni or mkoko*), electricity repair, loaders, and acting as messengers when such an opportunity arises. This comprised of 4.8% of the respondents. However, 3.2% indicated that they have no source of livelihood at the time of the interview.

The table below shows the distribution of the respondents in regard to their occupational status.

Table 4.3: Occupation of the respondents

Occupation	Frequency	Percentage
Public service	7	5.6
Religious Leader	3	2.4
Business person	14	11.1
Employed: Skilled	8	6.3
Employed: Non- skilled	26	20.6
Student	15	11.9
Farmer	43	34.1
Various	6	4.8
Unemployed	4	3.2
TOTAL	126	100.0

4.2.5 Occupation of the respondents' spouse

The highest percentages of the respondents' spouse, that is 7.9%, were either employed in unskilled capacity, while 7.9% were unemployed. More so, 6.3% of the spouses were farmers, 5.6% were business persons, 4% were employed in a skilled capacity, and 3.2% worked in the public service. Moreover, 1.6% of the

respondents were students, while 2.4% did not have a specific occupation but rather said that they do any income generating activity like cleaning clothes for their neighbours, among others.

The reader should note that the total number of married respondents was 50, and this means that 76 respondents were not married and this constituted 60% of the sample. Therefore, this particular question was meant for the 50 married respondents and that is why the 76 unmarried respondents were not applicable for this question. This information is tabulated below.

Table 4.4: The occupation of the respondents' spouses (note only 50 were married)

Occupation of spouse	Frequency	Percentage
Public service	4	3
Religious Leader	1	1
Business person	7	6
Employed: Skilled	5	4
Employed: Non- skilled	10	8
Student	2	2
Farmer	8	6
Various	3	2
Unemployed	10	8
Not Applicable (Not married)	76	60
TOTAL	126	100

4.2.6 Level of Education

There were 12.7% university or college graduates among the respondents, 35.7% had attended high school while 31% were primary school graduates. Therefore, this group of respondents can understand the socio dynamics of food security in an urban setting.

There were 6.3% of the respondents who had never attended school, while 14.3% had varying levels of education like primary, secondary or college drop-outs. Others were non-committal on their level of education. This is shown on table 4.5 below.

Table 4.5: The highest level of education of the respondents

Highest Education Level	Frequency	Percentage
University or College	16	12.7
Secondary	45	35.7
Primary	39	31.0
Not attended School	8	6.3
Others	18	14.3
TOTAL	126	100.0

4.2.7 Average monthly income

Table 4.6 shows that 27% of the respondents earned between Kshs. 5001-10,000. This was the highest percentage of the respondents. This implies that a significant number of the residents are generally low income earners. They were followed by those earning below Kshs.5000 at 23.8%. Those who earn Kshs. 10001 – 20,000 per month followed closely at 23%, while those earning Kshs. 20,001 – 50,000 were 8.7% of the respondents. A small number of the respondents earned Kshs. 50,001 and above. These were 4.8% of the respondents.

A good number of the respondents comprising 12.7% did not have a steady income at the time of the interview. They indicated that their income levels were varying depending on circumstances. They pointed out that they were finding it hard to survive in the circumstances. However, some respondents were not comfortable giving their income level and left this part of the questionnaire blank. The analysis is tabulated below.

Table 4.6: Average monthly income of the respondents

Average monthly income	Frequency	Percentage
Kshs. 5,000 and below	30	23.8
Kshs 5001 - 10,000	34	27.0
Kshs. 10001 - 20,000	29	23.0
Kshs. 20,001 - 50,000	11	8.7
Kshs. 50,001 and above	6	4.8
Others	16	12.7
TOTAL	126	100.0

4.3 Main Findings

4.3.1 Introduction

The main goal of this study was to establish the social dynamics of food security in a suburban area. The presentation of the main findings corresponds to the specific objectives of the study. These are;

- (i) To establish the sources of food for suburban residents;
- (ii) Establish the influence of urbanization on farming and food security;
and
- (iii) To establish the food security challenges faced and how they are handled

4.3.2 Sources of food for suburban residents

The first objective sought to establish the sources of food for suburban residents. The researcher investigated several aspects related to food. The respondents surveyed were asked several questions. This was necessary because people have different preferences of food based on tastes and income levels.

The respondents were asked to indicate the various sources of food in Dagoretti area. The respondents indicated that; farming, keeping livestock, rearing poultry, purchasing from supermarkets and local food stalls were some of the sources. Scavenging, and receiving food donations from charitable organizations (like NGOs

and government food aid) was indicated by a few of the respondents especially those without income. Some respondents indicated some residents who do not own farming land plant vegetables outside the small compounds of their houses.

The general view of the key informants interviewed is that urban agriculture is widely practiced in Kenya's urban areas and Dagoretti was not an exception. Most noted that urban agriculture is practiced by the residents who planted kales at their small compounds and reared poultry in the homesteads.

The focus group discussion held by the researcher had various responses to the questions on the sources of food available. Most of the respondents were unanimous that food was not readily available in the area. This was due to rising cost of food, inflation, unreliable weather, and rising cost of doing farming, lack of a government policy on urban agriculture, among others.

The sources of food for the area were urban farming, keeping livestock and poultry, farming, begging especially by street boys, and purchasing from the food stalls and local groceries commonly known as 'Mama Mboga'.

An example of urban farming that the researcher observed was planting of arrow roots on river banks. However, some residents indicated that they were wary of consuming arrow roots because of the fear that they could be contaminated. This is because the river flow contained raw sewage from neighbouring residential areas. It was noted that people refuse to consume arrow roots in Dagoretti suburb for fear of consuming those grown using raw sewerage water flow.

The picture below shows arrow roots planted on a sewage flow in Muthama area, Dagoretti.



Figure 4.1 Growing of arrow roots at Muthama in Dagoretti .Note the arrow roots are grown using raw sewerage water. The residential houses are in the background. The picture is dated on 22nd March 2012.

4.3.2.1 The main source of food

Purchasing of food from supermarkets, local food kiosks and groceries were the main sources of food. This comprised 49.2% of the 126 respondents. However, its only 12.7% of the residents indicated farming as the main source of food

The tabulated response below shows that keeping livestock and rearing poultry was preferred by 11.9% and 15.9% respectively of the respondents as the main source of food. Scavenging for food was preferred by 2.4% of the respondents. These were mainly, street families and the poor who did not have a steady income. Moreover, 3.2% of the respondents received food donations from well wishers like

NGOs and the Kenyan Government. However, others were not sure what their main source of food was.

Table 4.7: The main sources of food

The main source of food in the area	Frequency	Percentage
Farming	16	12.7
Keeping livestock	15	11.9
Rearing poultry	20	15.9
Supermarkets and food stalls	62	49.2
Scavenging	3	2.4
Charitable organizations	4	3.2
Others	6	4.8
TOTAL	126	100.0

4.3.2.2 The sources of food in each household

The respondents were asked to indicate the various sources of food in their household. The answers were; farming, keeping livestock, rearing poultry, purchasing from supermarkets and local food stalls. A few of the poor residents indicated that they sometimes begged for food from well wishers, others scavenged for it, while others hoped to receive food donations from charitable organizations (like NGOs and government food aid).

It was also noted that, some residents receive remittances from their rural homes and the Diasporas in terms of food or money which they use to purchase food. Some respondents indicated some residents who do not own farming land plant vegetables outside their house's small compounds to supplement the other food sources. Other respondents indicated that they have farms in far away rural areas from which they get food, while some travel to the rural areas to purchase food in bulk that they take to their households.

The key informants gave the following as the main source of food for the people of Dagoretti. These were; urban agriculture (farming), keeping a few livestock,

rearing poultry such as duck, pigeons, and chicken. Quite a number purchased from supermarkets and local food stalls. Some received food remittances from their rural home or rural farms. However some street families/ children begged for food from passersby. Some received donations from well wishers and politicians especially during election time to influence their voting.

The main source of food for the 45.2% of the households was purchasing food from; supermarkets, food kiosks, groceries and local food stalls. There were 27.8% of the respondents who indicated farming as their main source of food in their household. This can be probably attributed to the socio dynamics of urbanisation that is catching up with most of the people, who were previously rural, leading to diversification of economic activities.

As shown in the table below, 4% of the households depended on either keeping livestock or keeping poultry as their main source of food. They indicated to the researcher that they sell animals or their products so as to raise money for food and other life's necessities, while 7.9% of the respondents depended on remittances from the rural areas or the Diaspora to get food. It was noted that 1.6% of the respondents indicated that they were too poor that they scavenged for food, 3.2% begged mainly from well wishers, while 4.0% depended on food aid.

As shown in table 4.8 below, 2.4% gave various answers on what they would refer to as their main source of food in their households. Some were non-committal on what their main source of food was, while others left this part of the questionnaire blank.

The local popular local delicacies are usually referred by their local names. These include the following: *Suubu, mutura, mugaruro, mathagiyo, maara, mutwe, githeri, mukimo, Nyama cia Ngurwe and Nyama cia Ngombe*, among others (*see translation on page 12 for definitions of key terms*).

Table 4.8: Tabulation of the main sources of food for each household

The main source of food in each household	Frequency	Percentage
Farming	35	27.8
Keeping livestock	5	4.0
Rearing poultry	5	4.0
Supermarkets, kiosks, groceries and food stalls	57	45.2
Scavenging	2	1.6
Remittances from rural home or Diaspora	10	7.9
Begging	4	3.2
Charitable organizations	5	4.0
Others	3	2.4
TOTAL	126	100.0

4.3.2.3 The food crops grown, poultry and animals kept

The respondents were asked to identify the type of food crops grown, and the poultry and animals kept. Some were not very sure, while others gave various answers. The crops grown were cabbages, sukumawiki (kales), maize, groundnuts, beans, coffee, and Napier grass. The poultry kept were chicken, ducks, turkeys, and pigeons. The animals kept were cows, goats, pigs, and sheep.

The focus group identified the various crops grown in the area. These were; sukuma wiki (kales), cabbages, maize, beans, ground nuts, and coffee. The main animals kept there were; dairy cows, bulls for meat, dairy and meat goats, sheep, pigs, dogs for security, while poultry comprises of chicken, pigeons, ducks, turkeys, and geese.

Moreover, the group noted that the average land acreage in Dagoretti was less than 1 acre. This affected food production because of lack of economies of scale. Most of the respondents said that urban farming was the therefore mostly practiced because people planted few crops and kept few poultry in their small household compounds. The majority of the respondents were employed in

informal and formal sectors in order to get income to meet their food security challenges.

The researcher observed that the main farming system practiced in Dagoretti is mixed farming, where both crops and animals are kept side by side. The cows are reared through zero grazing while the poultry are kept in cages; probably to avoid them straying into the owner's or neighbour's farms.

4.3.3 The Influence of urbanization on farming and food security

The second specific objective sought to establish the influence of urbanization on farming and food security in a suburban area. Their responses were varied. The following subsections give the responses for each question as indicated by the respondents.

4.3.3.1 Farming, livestock and poultry keeping

The respondents were asked to give their opinion of the influence of urbanisation on food production in Dagoretti. Their responses were as follows; most indicated that there had been subdivision of farmlands into commercial plots which had affected the amount of land available for farming activities. Those who wanted to do farming were now practicing urban agriculture by either rearing few poultry and animals, or planting few crops like sukuma wiki (kales), maize in their now diminishing farmlands.

However, some said that the farm land size had remained the same as far as they can remember. These probably were residents who had settled in the area in the recent past. This therefore meant that in their opinion, nothing had changed. They indicated that they did not know the effects of urbanization on farming, keeping of livestock and poultry in Dagoretti.

Others said that they would rather sell their farms which had been subdivided into plots and subsequently buy cheaper and larger farming land upcountry. They said

that the price offered by the buyers was too high to reject. This clearly showed that the effect of urbanization was catching with the residents.

The key informants gave varied opinion on the influence of urbanization on food security in suburban areas. They noted that some unscrupulous farmers were growing crops like kales and arrow roots using sewage water which was contaminated (polluted). The researcher also noted that crops like arrow roots were grown along the banks of rivers and streams in Dagoretti.

The informants also pointed out that land available for farming activities was diminishing, and there were increasing number of disputes on boundaries that hampered farming and other development endeavours. Moreover, the city by-laws do not allow for keeping of livestock. They also noted that residents were subdividing their farmlands into commercial plots, while others were now practicing urban agriculture. These same reasons applied to Dagoretti as a suburban area.

4.3.3.2 *Food security*

As shown on Table 4.9 below, it was interesting to note that the highest number of respondents, 40.5%) indicated that the main influence of urbanization on food security in Dagoretti was that people may be abandoning farming for other economic activities. Another 36.5% noted that the land available for farming and livestock is diminishing thus affecting food security in the area.

Table 4.9: The main influence of urbanization on food security

The main influence of urbanization	Frequency	Percentage
Switching from farming	51	40.5
Diminishing land	46	36.5
No effect on food security	9	7.1
Don't know	12	9.5
Others	8	6.3
TOTAL	126	100.0

However, 7.1% of the respondents did not see any main effect of urbanization on food security, while 9.5% did not know of any main effect. However, 6.3% gave varied reasons. These were that the cost of farming had affected food security but not urbanization; others said that lack of markets for their produce had affected food security while others said that the prices offered in the markets for their produce had kept fluctuating. Some said the unreliable weather had affected their food production, while some said theft of produce in the farms lowered their morale thereby affecting their production capacity. Some said that diseases had wiped their reared animals especially poultry while others indicated that the town by-laws did not permit them to rear animals or allow their animals to graze around especially when there was no pasture during the dry seasons. These were the main reasons they considered to have mainly affected food security in regard to urbanization.

The focus group discussed various influences of urbanization on farming and keeping of livestock and poultry in the area. They noted that many people were abandoning farming as a way of earning their income for other economic activities like engaging in formal and informal employment in the public and the private sector. Some people were employed in factories in the city as permanent or casual workers. More so, they noted that the government was not carrying out agricultural extension services making them face challenges in farming in the midst of climate change and diminishing land size to maximise on yields. People

were now abandoning the traditional rural way of life for the urban lifestyle. They therefore noted that urbanization was negatively affecting food production although they could raise their income through other means like employment to get money to buy food. The expanding urbanization was affecting the land size available for farming.

4.3.3.3 The people’s opinion on availability of food

The respondents were asked to indicate their opinion on general food availability in Dagoretti as a suburban area. This was meant to show that residents linked food availability and the expanding urban area of Nairobi. Their response was varied as shown in the table 4.10 below. Note that 31.7% indicated that availability of food was generally poor considering the cost of food and that previously farming land had been subdivided to create space for plots. This implies that the effect of urbanisation was affecting food availability. 43.7% said it was fair, while 19.8% indicated it was good. However, 4.8% of the respondents said it was very good since they had farmland to grow crops and keep animals, or that they had a good income to buy food.

Table 4.10: the respondent’s opinion on availability of food in Dagoretti

The people’s opinion on availability of food	Frequency	Percentage
Poor	40	31.7
Fair	55	43.7
Good	25	19.8
Very Good	6	4.8
TOTAL	126	100.0

The key informants agreed that food security was an issue in Dagoretti. The main factors they cited that affect food security were; diminishing farm land, people were abandoning farming for other economic generating activities, and others were adopting the urban lifestyle. They generally noted that the current food production in the area was poor, whilst some put the situation as satisfactory.

4.3.3.4 The main farming systems practiced

Table 4.11 below shows the respondents' views on the main farming systems practiced. Most of them indicated that 45.2% practiced subsistence farming by planting a few crops on their small farmlands and household compounds. A big percentage, 39.7%, indicated that the residents practiced mixed farming by planting crops and keeping livestock and poultry. Few practiced large scale farming and livestock keeping per se, as indicated by the few percentages of 4.0% and 2.4% respectively.

A significant number of the respondents, comprising of 1.6%, were not aware of any farming systems practiced in the area of study. While others, 7.1% indicated that people could be abandoning farming for other economic activities, although they were not very specific. Some however, left this part of the questionnaire blank.

Table 4.11: Main farming systems practiced in Dagoretti

Main farming system practiced in Dagoretti	Frequency	Percentage
Subsistence farming	57	45.2
Large scale farming	5	4.0
Livestock keeping	3	2.4
Mixed farming	50	39.7
None	2	1.6
Others	9	7.1
TOTAL	126	100.0

The focus groups noted that the main farming system practiced in Dagoretti was urban farming that comprised of mixed farming, where both crops and animals are kept side by side. The cows are reared through zero grazing while the poultry are kept in cages to prevent them straying into the owner's or neighbour's farms.

The researcher also made some observations. He noted that most of the farming systems practiced in Dagoretti was; mixed farming, small scale, urban farming, and few instances of large scale farming. Urban farming

Urban Agriculture involved instances where farmers grew crops like kales in sacks filled with soil and manure. This was a very important way of supplementing food supply in the household. Subsistence farming (where food produced is consumed in the household) provided food to the suburban dwellers. These comprised what is known as urban farming.

4.3.4 Food security challenges faced and the local solutions

The third specific objective of the study sought to establish the food security challenges faced by people in Dagoretti as a suburban area. The researcher then sought to know how they are handled.

4.3.4.1 Food production and food security

Table 4.12 below shows the main food security challenges faced by residents of Dagoretti. Most respondents (47.6%) indicated the rising cost of food as their main challenge. This was most probably due to the high inflation being experienced in Kenya during the time of the research. The availability of food in the market was another major challenge; this was indicated by 27.0% of the respondents. The droughts that affected the country in the recent years could be attributed to this phenomenon.

Table 4.12: The main food security challenge faced by residents

Main food security challenge	Frequency	Percentage
Food availability	34	27.0
Rising cost	60	47.6
Tough City by-laws	19	15.1
Don't know	6	4.8
None	2	1.6
Other	5	4.0
TOTAL	126	100.0

The tough city by-laws were cited by 15.1% of the respondents as their main food security challenge. Many felt that by-laws were an impediment, one being the ban on keeping of livestock. Moreover, Nairobi city council's trade licence fees were higher for doing business than that for town councils in neighbouring rural areas.

It was noted that 4.8% did not know what their main food production challenge was, while 1.6% did not find any food production challenge in their lives. Moreover, 4.0% indicated several challenges that include reduced storage capacity for harvested food, attack by pests, theft of food in the farms in addition to stealing of animals especially poultry, goats and sheep. More so, the government's poor policy on urban farming was also cited as one of the challenges faced by the respondents.

The respondents were asked to list the food security challenges that they had encountered. These were; inadequate rainfall, poor food preservation methods, pest attacks, frost attacks, excessive rainfall, unpredictable weather, poor farming methods, high cost of farming, disease attacks that wiped whole stock especially poultry, diminishing land for farming, city by-laws banning livestock, high cost of food, poor agricultural extension services, non-clear government policy on urban farming, among others.

The key informants cited a number of food security challenges faced by people of Dagoretti. These were; diminishing food availability, the rising cost of food, unfriendly city by-laws, some food varieties were diminishing while some were relatively expensive such as avocados, green grams, pumpkins, peas, watermelons, among others.

The informants pointed out that poverty too affected the peoples' ability to get the food of their choice, so was unemployment. Some also noted that the government did not have a clear policy to address urban agriculture. Land grabbing was also a common menace in Dagoretti and this has affected agriculture. This is because of numerous court cases and threats of eviction that made the residents reluctant to invest in agriculture or other investment on land whose ownership was in dispute.

To meet the food security challenge, the Government needs to have a clear policy on urban agriculture. People should be sensitised on how best they can make use of the small land spaces available to produce food. The researcher feels that all pending land disputes should be dispensed with quickly so that the residents can concentrate their energies and efforts in meaningful economic land use. The city by-laws should also be reviewed to encourage emerging new opportunities for food production like urban agriculture.

4.3.4.2 Getting employment

Having a meaningful source of income was found to be one of the great challenges in the area. The focus group noted that this affected the people's ability to afford adequate diet. The residents needed some form of employment so as to raise money to buy the different food varieties to constitute a balanced diet.

The researcher noted that a good number of the residents were employed, either in informal and formal sectors in order to get income to meet their food availability challenges. Some were self employed by doing their own businesses.

This was one major coping mechanism to meet the challenge of employment. Indeed the majority of the residents were self employed.

Most people cope with the life of being torn between rural and urban way of life by seeking formal and informal employment to raise income to buy food. Therefore, the main challenge faced by the people in their quest to ensure food security was getting employment.

4.3.4.3 *Expansion of the city*

The researcher observed Nairobi city was expanding to the sub urban areas. This means that that urbanization was spreading to Dagoretti due to the increasing number of high rise buildings seen on previous farm lands. The residents subsequently depended on diverse economic activities for their livelihood as opposed to solely depending on farming.

The average percentage of Dagoretti residents who grow food and keep livestock was about 25% while the other 75% were involved in diverse economic activities. About half (50%) of the land in Dagoretti had been commercialised into business premises while the rest was both undeveloped plots and subdivided plots awaiting potential buyers. Most crops were planted on the small compounds outside the residential houses. In fact some people planted crops like sukuma wiki (kales) in sacks filled with soil and manure.

The other challenge brought by urbanization were the diminishing farmlands, inflation leading to rise of food prices in the market, few people opting for farming as a viable economic activity. More so, land disputes affected food production because cases dragged in courts for years. The average land acreage in Dagoretti was less than 1 acre. This affected food production because of lack of economies of scale in production.

Moreover, the researcher noted that urbanisation brought about solid and liquid waste contamination to local streams. This affected crop production like arrow roots. However, the researcher noted that some unscrupulous people were growing this arrow roots for sale using sewerage water as a way of supplementing food supply.

Begging, getting food donations from well wishers and waiting for remittances are also ways of meeting the challenge brought about by the expanding urban areas which has led to reduced food production. More so, the residents practiced urban farming by planting few crops and keeping few poultry in their small household compounds.

4.3.4.4 *The average land acreage*

Most respondents, 44.4%, indicated the average land acreage available for farming is less than one acre, while 31.7% indicated that the available land is 1-2 acres on average. Those who had 2-5 acres were just 7.1% while those who indicated that they had 5 acres and above that was available for farming were 4.0%.

The researcher observed that there were several people with negligible land size. In fact, quite a number did not own farmland; instead they had their small compounds outside their residential houses which they used for subsistence farming. They planted sukuma wiki, onions or Napier grass on their compounds. A picture of Napier grass grown on a small land (compound) adjacent to a residential house in Muthama, Dagoretti is shown on figure 4.2 below.



Figure 4.2 growing of Napier grass on a small piece of land in the suburban residential area of Muthama, Dagoretti. The residential houses are in the background. The picture dated 22nd March 2012.

However, 7.9% of the respondents did not know the average acreage available for farming in the area. Others, comprising of 4.8% left this part of the questionnaire blank. The analysis is tabulated on table 4.13 below.

Table 4.13: Average land acreage available for farming in Dagoretti

Average land acreage available for farming	Frequency	Percentage
Less than 1 acre	56	44.4
1-2 acres	40	31.7
2-5 acres	9	7.1
5 acres and above	5	4.0
You do not know	10	7.9
Other	6	4.8
TOTAL	126	100.0

This challenge can be addressed by encouraging land consolidation where the small plots are put together so that they can take advantage of economies of scale. Another way of addressing the challenge of small farm lands that the researcher found out was planting vegetables like kales in sacks filled with soil outside the homesteads.

The Focus Group noted that land acreage was diminishing at a very high rate. In fact, about 65% of farmland in Dagoretti had been sub-divided into plots and sold to build settlements and business premises.

4.3.4.5 High income spent on food

The respondents were asked to indicate the approximate amount of their income spent on food. The results are as shown on table 4.14 below.

It was noted that 34.9 percent indicated that they spend a quarter of their income on food, followed by 28.6 percent of respondents who indicated that they spend a third of their income on food while 20.6 spends a quarter of their income. Moreover, 11.9% spends approximately a fifth of their income on food while 2.4 spends all their income on food! The researcher noted these were the desperately poor in the society. However, two respondents declined to answer this question and they did not give any reasons for this.

Table 4.14: The approximate percentage of income spent on food

Approximate percentage of income spent on food?	Frequency	Percentage
All income	3	2.4
Half of income	26	20.6
A quarter of income	44	34.9
A third	36	28.6
A fifth	15	11.9
Others	2	1.6
TOTAL	126	100.0

This challenge can be addressed by sending a plea to the Kenyan Government to seek ways of controlling inflation which is affecting the purchasing power of the people. Moreover, there should be mechanisms of addressing food production in times of drought to ensure adequate food production. One way is having irrigation in the rural areas to ensure food production all year round. This will also in the long run address food supply that directly affects the food cost. In other words, every effort should be made to make the country's suburban areas food secure.

4.3.4.6 Low food production from Nairobi

The review of the secondary data from the Ministry of Agriculture, gave a poor scenario of food production from Nairobi County in general. There wasn't data that addressed Dagoretti food production in particular, but rather I got for the whole of Nairobi city (county). Table 4.15 below shows the maize stocks, which is Kenya's staple food, for the eight provinces.

Table 4.15: Maize stocks of 90 Kilogram bags as at December 31 2011

Province	Farmers stocks	Traders stocks	Millers stocks	NCPB stocks	Total
Central	408,6616	168,417	22,202	N/A	599,235
Coast	516,579	81,671	12,179	N/A	610,429
Eastern	169,949	334,038	95,113	N/A	599,100
Nyanza	1,158,745	745 408	24,430	N/A	1,591,285
N. Eastern	650	3,950	1,150	N/A	5,750
R. Valley	8,247,070	995,575	359,080	N/A	9,601,725
Western	3,075,500	309,800	0	N/A	3,385,300
Nairobi	80	15,000	0	N/A	15,080
Total	13,577,189	2,316,561 514	514,154	2,301,702	18,709,606

Source: Ministry of Agriculture, Kenya (<http://www.kilimo.go.ke/>)

Note the little number of maize stocks held by farmers in Nairobi province. This implies that few people practice farming in the city and its sub urban areas. However a sizable number of maize stocks, 15,000 bags, are held by traders who sell it to Nairobi's residents.

More so, table 4.16 below shows production statistics for maize in Kenya across the provinces. Note that Nairobi has the least area in hectares, 1238, under maize production. This implies that the area under food crop production in Nairobi and its environs that includes Dagoretti is very small.

Table 4.16: Maize crop production statistics for year 2011

Province	TARGETS						ESTIMATED ACHIEVEMENTS					
	AREA IN HA			ESTIMATED PRODUCTIONS IN BAGS			AREA IN HA			PRODUCTIONS IN BAGS		TOTAL LR+SR
	LR	SR	TOTAL LR+SR	LR	SR	TOTAL LR+SR	LR	SR	TOTAL LR+SR	LR	SR	
	2,011	2,011		2,011	2,011	LR+SR	2,011	2,011		2,011	2,011	2,011
North Valley	663,705	97,085	760,790	15,265,215	2,718,380	17,983,595	533,865	55,849	589,714	18,045,265	558,480	18,603,745
Nyeri	175,453	87,000	262,453	3,145,715	565,900	3,711,215	195,795	123,140	318,935	2,349,540	1,047,100	4,196,640
Western	232,975	50,521	283,496	3,494,625	686,773	4,181,398	204,130	23,605	227,735	5,648,525	354,075	6,002,600
Central	107,725	85,605	193,330	2,349,086	1,027,280	3,376,366	105,199	76,960	182,159	1,399,639	1,154,400	2,554,039
Eastern	247,674	270,152	517,826	3,477,821	1,350,760	4,828,581	214,924	287,427	502,351	515,818	4,311,405	4,827,213
Coast	111,083	60,187	171,270	1,555,162	421,309	1,976,471	130,027	46,225	176,252	743,795	693,375	1,437,170
N ^o Eastern	5,450	5,350	10,800	14,950	11,000	25,950	1,616	0	1,616	800	0	800
Nairobi	798	420	1,218	3,360	9,542	12,902	490	0	490	7,840	0	7,840
Total	1,544,863	656,320	2,201,183	29,305,934	6,760,524	36,066,458	1,386,066	613,206	1,999,272	28,711,203	8,918,845	37,630,048

Source: Ministry of Agriculture, Kenya (<http://www.kilimo.go.ke/>)

The low food production from Nairobi can be addressed by the ensuring that people practice urban agriculture. More so, rural-urban migration should be discouraged to avoid overcrowding in cities. This can be done by devolving development across the breadth of Kenya. This will ensure that the cities expand gradually so that the suburban population can cope with the emerging land and change of lifestyle pressure.

Indeed, it is hoped that Kenya's new constitution dispensation will help spread development across the counties. This will ensure that the large urban centres like Nairobi will expand at a slower rate so that food production from the surrounding suburban areas like Dagoretti can remain steady.

4.3.4.7 *Actual people's solutions of addressing food security*

The researcher was interested in finding out how people address the food security challenge in Dagoretti. The tabulation of the analysis is as shown on table 4.17 below. It shows how the residents of Dagoretti earned their living to meet the food security challenges. The respondents were asked to indicate how they earned their income to meet the food security challenges. The response was that 35.7% practiced farming and kept livestock, while 14.3% were landlords, who got their income from their rental premises.

Moreover, 11.9% of the respondents were employed in agriculture – related activity while 17.5% were employed in non-agricultural related activities like drivers, watchmen, plumbers, teachers, among others. Business persons comprised 11.1% of the respondents.

However, 4.8% said they did not have any income and usually they receive remittances from their rural home or from the Diaspora to meet their daily needs. A significant number of the respondents comprising 3.2% were beggars with no source of income, and lived in abject poverty. Another 1.6% gave varied answers. Their responses were that they got their incomes by doing various menial jobs which were not guaranteed, while one indicated he was a broker but declined to state what he brokered.

Indeed, some respondents sold their land to raise income to meet other life's needs like food, among others.

Table 4.17: Respondents ways of addressing food security

Solutions to food security	Frequency	Percentage
Farming and livestock keeping	45	35.7
Landlord	18	14.3
Employment: Agriculture related	15	11.9
Employment: Non-Agriculture related	22	17.5
Business	14	11.1
Remittances from rural home or Diaspora	6	4.8
Begging	4	3.2
Others	2	1.6
TOTAL	126	100.0

Likewise, the key informants noted that the residents of Dagoretti got their income to meet the food security challenges from various sources. These sources include farming and keeping livestock, some were landlords who get their income from rental premises, some are employed in public and private sectors, while others were business persons.

The informants also noted that in deed crime was high in the area. This was a negative way of raising money to purchase food and meet other life's basic needs. Alcoholism was also another negative way the young men and old men with no source of steady income engaged in so as to forget the challenges that they face in life. Prostitution and fraud especially on land purchases was also a big problem in the area.

4.1 Conclusion

In the course of the study, the researcher noted that the Kenyan government has no policy to address urban / suburban farming. I feel concerned because the number of people moving to urban areas in search of greener pastures is increasing, so is the fact that the urban centres are expanding putting pressure on

suburban areas. Indeed, this implies that suburban residents are torn between their traditional ways of life in the expanding modern urban lifestyle.

The results of the research show that fewer people actually practice farming as a main means of livelihood. The researcher thinks that most of those who practice farming in the suburban area of Dagoretti do it as a part time venture. They also do it on a very small scale to be a long term solution as a reliable source of food for most of the residents. Indeed, they practice subsistence farming where the food is just meant for household consumption rather than for the market. The food purchased from the food stalls and the groceries comes from upcountry.

The food security dynamics in a suburban setting come with numerous challenges. Key among them is the rising cost of food leading to an unfortunate situation where some spend almost their entire earnings on buying food. There were other challenges noted by the respondents as well, and these include tough city by-laws governing livestock keeping, unemployment, under-employment, growing food using raw sewage water and the subdivision of land to create plots for commercial enterprises. The above has really affected the land available for farming activities.

However, the fact that the suburban residents have diversified their economic activities seems a blessing in disguise. The residents have many options of earning some income to purchase food. Some are drivers, conductors, farmers, landlords/land ladies, pastors, civil servants, while others work in the private sector. In deed all is not lost because in an urban or suburban setting there is division of labour where each one's production is for the benefit of the immediate society.

To meet the food security challenges, the Kenyan Government needs to have a clear policy on urban agriculture. Moreover, the population need to be sensitised on how best they can make use of the small land spaces available to produce food.

The researcher also feels that all pending land disputes should be dispensed with quickly so that the residents can concentrate their energies and efforts in meaningful economic land use. The city by-laws should also be reviewed to encourage emerging new opportunities for food production like urban agriculture. Indeed, food production should be a concern for everyone so that the country at large can attain food security.

5.0 CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter gives a summary, conclusion and recommendations of the study on the key findings presented in chapter four. The purpose of this study was thus to assess the social dynamics of food security in suburban areas with Dagoretti being the case study. The study used both quantitative and qualitative types of research.

The study revealed different socio dynamic factors that affect a suburban area. These are summarised below.

5.2 Summary of the key findings

The summary of this study is presented according to the research questions highlighted earlier on. These research questions were;

- (i) What are the sources of food for suburban residents?
- (ii) What influence does urbanization have on farming and food security?
- (iii) What are the food security challenges faced and how are they handled?

5.2.1 Sources of food for suburban residents

The study found out various sources of food for the sub urban residents. These sources are; farming, keeping livestock, rearing poultry, purchasing from markets and local food stalls, scavenging for it especially the street children, and receiving food donations from charitable organizations (like NGOs and government food aid) for those without income. Some residents who do not own farming land plant vegetables outside their house's small compounds. They also keep livestock especially dairy cattle through zero grazing and keep poultry by rearing them in cages.

The crops grown were cabbages, sukumawiki (kales), maize, groundnuts, beans, coffee, and Napier grass. The poultry kept were chicken, turkeys, ducks, and

pigeons. The animals kept were cows, goats, pigs, and sheep. This was done in small farms that averaged less than 1 acre.

5.2.2 Influence of urbanization on farming and food security

The study found out that urbanization has had a great effect on farming and food security in general. Most residents indicated that availability of food was generally poor considering the cost of food and that previously farming land had been subdivided to create space for plots. This implies that the effect of urbanisation was affecting food availability in that fewer and fewer people were practicing farming as a career.

Few sub urban residents can be proud of owning big pieces of land due to increasing population which put pressure on available land. More and more people were immigrating to the sub urban areas to buy land for construction of homes and business premises to escape from the city centres and its immediate environs to avoid congestion and get a feel of the countryside. Therefore more and more people got their food from the markets rather than from their shambas as it has been happening in the past.

Those who wanted to do farming were now practicing urban agriculture by either rearing few poultry and animals, or planting few crops like sukuma wiki (kales), and maize in their now diminishing farmlands. Some residents would rather sell their farms which they subdivide into commercial plots and subsequently bought cheaper and larger farming land upcountry. The price offered by the buyers was too high to reject. This clearly showed that the effects of urbanization were catching with the sub urban residents.

5.2.3 The local food security challenges and their solutions

The residents in sub urban areas faced various challenges in regard to food security. These were inadequate rainfall, poor food preservation methods, pest attacks, frost attacks, excessive rainfall, unpredictable weather, poor farming

methods, high cost of farming, disease attacks that wiped whole stock especially poultry, diminishing land for farming, city by-laws banning livestock keeping, high cost of food, poor agricultural extension services, among others.

Most sub urban residents were diversifying their sources of income to meet the food security challenges. A good number still practiced farming and keeping livestock, others had built rental house and they were landlords who got their income from their rental premises. Some residents are employed in agriculture – related and non – agriculture-related activities like drivers, watchmen, plumbers, teachers, among others. Some are business persons.

However some do not have any income and usually receive remittances from their rural home or from the Diaspora to meet their daily needs. This group includes the unemployed and students who study in colleges in the neighbourhood. Some are beggars with no source of income, and live in abject poverty, while the rest got their incomes from doing various menial jobs which was not always guaranteed.

5.3 Conclusion

The **future of food security** in Dagoretti does not look very bright. The diminishing farm lands are leading more and more people to abandon farming as a sustainable way of getting a steady income. However, this is mitigated by the expanding choice of economic activities due the expanding urban area to the suburbs. In retrospect, those who fail to get formal or informal employment are bound to suffer in the circumstances because they need to purchase food.

Urban farming is very important to supplement food sources for urban residents. In deed the Kenyan government needs to have a policy to address it. The study revealed that the land under farming in sub urban area of Dagoretti is diminishing due to commercialization of land. The subdivided land is then sold as small plots for construction.

Many people in the sub urban area feel the pressure of the expanding city of Nairobi. This has also led to diversification and specialisation of labour. Consequently more and more people were abandoning farming as the main way of livelihood and source of food. These are the social dynamics of food security in suburban areas. Therefore, the suburban residents mainly get their food from the market rather than from the shamba.

The social dynamics at play that influence food security in a suburban area are diverse. The major dynamics are the effects of expanding urban lifestyle, while on the other hand there is the diminishing influence of the rural lifestyles to the peripherals of a city or a major town regarding food security. The suburban residents are torn between the new modern urban lifestyle and their traditional rural way of life especially in regard to agriculture. Farming suffers as a result. However, people engage in other economic activities that generate income that is used to purchase food from the market.

I also noted that there is no specific theory that addresses **sub urbanism** specifically.

To summarize, I would like to point out that food security has three critical components: food availability, food access, and food use and utilization. Therefore, these are addressed through urban agriculture that is characterized by growing of crops and keeping livestock in the city, town or the suburban area. However, under the pressure of the expanding city; some farms have been commercialized and subdivided into plots that are then sold. The income raised then might be used to purchase food from shops and supermarkets. These social dynamics have an overall effect on food security in the sub-urban areas.

5.4 Recommendations

Considering the research findings, the study recommends that the following measures;

5.4.1 The Kenyan Government

The Kenyan government should develop a policy on urban agriculture. This will enable the sub urban farmers get crucial advice on farming through extension services. This more of a concern because the number of people moving to urban areas in search of greener pastures is increasing, so is the fact that the urban centres are expanding, putting pressure on suburban areas.

The government should extend the social amenities and services enjoyed in urban areas to the peripherals of the towns like good roads, water, electricity and storage facilities like national cereals and produce board (NCPB) silos to store harvested grain to avoid losses. These will consequently improve the quality of life for the sub urban residents as well.

5.4.2 The Community

The urban residents should be encouraged to practice urban agriculture like planting vegetables on sacks and keeping a few livestock to supplement their food sources.

More so, the sub urban dwellers should have broadened economic activities to cushion them from the rising cost of living and their overall development. This should include farming so that the future of food security in Dagoretti is secured.

5.4.3 The NGOs

Expanding urban areas have tremendous effects on adjacent areas that surround the urban centres. This brings about cultural conflicts. The Non - Governmental Organizations (NGOs) plus the also the government, therefore, should sensitize the public on the changing lifestyle.

The NGOs should also intensify their efforts in encouraging the farmers not to abandon farming in its entirety. This will enhance food security and avoid cases of

malnutrition brought about by lack of purchasing power and non-availability of different food varieties for a balanced diet.

5.4.4 Areas for further research

This study recommends further research on suburban food security in similar areas around Nairobi and other major towns in Kenya. This will help in generalization of the study across the sub urban areas in the country. The policy makers and other stakeholders can then use the findings to come up with a policy on urban agriculture for sustainable food security.

REFERENCES

- Diana, M. D., 1995, "Hunger, Nutrition, and Food Programs", in *19th Edition of Encyclopaedia of Social Work*, NASW PRESS, National Association of Social Workers, Washington D.C. 1428 - 1437.
- Douthwaite, R., 1995. Who says life is cheap? The Guardian, Wednesday, November 1, the Environmental Section, London.
- FAO, 1982. Tropical Forest Resources. Forestry paper No. 30. FAO, Rome.
- FAO, 1986. Yearbook of Forest Products, FAO, Rome.
- FAO, 2003. The State of the World's Forests, FAO, Rome.
- Foeken, D. and Mwangi, A. M., 2000. "Increasing food security through urban farming in Nairobi", in Bakker, N., Dubbeling, M., Gundell, S., Sabel-Koschella, U. and de Zeeuw, H. (eds) *Growing Cities, Growing Food Urban Agriculture on the Policy Agenda: A Reader on Urban Agriculture*, Deutsche Stiftung für Internationale Entwicklung (DSE), Feldafing, Germany.
- Glantz, M., 1995. Desertification Contributes to World Hunger - Current Controversies, Greenhaven Press, Inc, U.S.A. 40-41.
- Hanna, W.J. and Hanna, J.L, 1974. Urban dynamics in Black Africa - An interdisciplinary approach. Aldine, Atherton, Inc 529 South Wabash Avenue, Chicago, Illinois 60605.
- IFPRI, 1996. Urban challenges to nutrition security: a review of food security, health and care in the cities draft report, IFPRI, Washington DC.
- James, W. T., 1974. Urbanization in Jamaica. International Urbanization Survey. The Ford Foundation, Kingston, Jamaica.

ansen, A.A.J., Horelli H.T., Quinn V.J., 1987, "Food and Nutrition in Kenya, a historical perspective", in the publication of Department of Community Health, Faculty of Medicine, College of Health Sciences, University of Nairobi with assistance from UNICEF. 551-573.

ohn, F.B. Mitchell and Zeng Q., 1991. "Climate Change Prediction", in the *Second World Climate Conference Proceedings. Climate Change: Science, Impacts and Policy*. World Meteorological Organization. University Press, Cambridge, Great Britain. 59-70.

oyeeta, G., 1997. The Climate Change Convention and Developing Countries: From Conflict to Consensus? *Geboren te New Delhi, Vrije Universiteit*.

Kothari, C.R., 2004. Research Methodology, Methods & Techniques. Second Edition. New Age International Publishers.

Lloyd, P., 1980. The 'young towns' of Lima – Aspects of urbanization in Peru. (Urbanization in Developing Countries). Printed in Great Britain at the University Press, Cambridge.

Michael, H. G. and Workineh D., 1991. "Drought Issues for the 1990s", in the *Second World Climate Conference Proceedings. Climate Change: Science, Impacts and Policy*. World Meteorological Organization. University Press, Cambridge, Great Britain. 253-263.

Obara, D.A and Ogonda R.T., 1994. Secondary School Atlas. Mcmillan Kenya Ltd, Nairobi.

- Odegi-Awuondo, C., Namai, H.W, Mutsotso, B.M, 1994, Masters of Survival. "Life is but one big struggle in the wilderness". Basic Books paperback Series, Nairobi Kenya.
- Olson, J.S., J.A. Watts, and Allison L.J., 1985. Major world ecosystem complexes ranked by carbon in live vegetation: A database. NDP-017. Carbon dioxide information center, Oak Ridge, Tennessee.
- Overpeck, J.T., 1993. "The role and response of continental vegetation in the global climate system", in Global changes in the perspective of the past, edited by J.A. Eddy and H. Oeschger, John Wiley, New York.
- Richard, W. H., 1976. African Cities and Towns before the European Conquest. W.W. Norton & Company Inc. New York.
- Ritzer, G., 1996. Sociological Theory. Fourth Edition, McGraw Hill, New York.
- Robin, C., 1991, Water - The International Crisis, Earthscan Publications Ltd, London.
- Singleton R. Jr., 1988. Approaches to Social Research, Oxford University Press, New York.
- Swaminathan, M.S, 1991. "Agriculture and Food Systems", in the Second World Climate Conference Proceedings. Climate Change: Science, Impacts and Policy. World Meteorological Organization. University Press, Cambridge, Great Britain. 265-277.
- USAID, 1992. Definition of Food Security. P.D-19.Washington DC: USAID.

Vangui, G, 2006. Small scale farmers' perceptions of the effects of deforestation on their livelihoods: A case study of Loitokitok division, Kajiado municipality. M.A. research project, University of Nairobi.

Wright, R., 1995. Hunger in the World: An Overview. Hunger - Current Controversies. Greenhaven Press, Inc, U.S.A. 16-20.

Electronic Sources

Brown, K. H. and Carter A., 2003. Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe - A Primer Prepared by the Community Food Security Coalition's North American Urban Agriculture Committee. Published by the Community Food Security Coalition, Venice California.

Stable URL:<http://www.foodsecurity.org/PrimerCFSCUAC.pdf>

Charles R. T. and Mark C.S.,1992. "Urban Theory, Urbanism, and Suburban Residence", in the *Social Forces*, Vol. 70, No. 3 pp. 725-744. Published by: Oxford University Press

Stable URL:<http://www.jstor.org/stable/2579751>

Drakakis-Smith, D., 1990. "Urban food distribution in Asia and Africa", in the *Geographical Journal*, Vol. 157, No. 1, March 1991, pp. 51-61. Published by: Blackwell Publishing on behalf of The Royal Geographical Society (with the Institute of British Geographers).

Stable URL:<http://www.jstor.org/stable/635144>

Elliott A. , 1992. Beck's Sociology of Risk: A Critical Assessment, in *Sociology 2002*. Published by SAGE publications on behalf of British Sociological Association

StableURL

http://www.sagepub.com/mcdonaldizationstudy5/articles/Weber%20and%20Other%20Supporting%20Theories_Articles%20PDFs/Elliott.pdf

Garasky, S., Morton L.W., Greder K., 2004. "Food Environment and Food Insecurity: Perceptions of Rural, Suburban, and Urban Food Pantry Clients in Iowa", in *Family Economics and Nutrition Review*. Vol. 16 No.2. page 41-48. Iowa State University

URL: <http://www.soc.iastate.edu/sapp/Food%20Insecurity.pdf>

Kodamaya, S., 2011. "Agricultural policies and food security of small holder farmers in Zambia", in the *Journal of African Study Monographs*, Suppl.42: 19-39.

URL:http://iambo.africa.kvotou.ac.jp/kiroku/asm_suppl/abstracts/pdf/ASM_s42/Kodamaya.pdf

Mary Corbin Sies., 1991. "Toward a Suburban Theory of the Suburban Ideal, 1877-1917", in *Perspectives in Vernacular Architecture*, Vol. 4 page 197-207. Published by Perspectives in Vernacular Forum,

Stable URL <http://www.jstor.org/stable/3514235>

Morgan, W. T. W., 1969. "Urbanization in Kenya: Origins and Trends", in the *Journal of Transactions of the Institute of British Geographers*, No. 46, pp. 167-178. Published by: Blackwell Publishing on behalf of The Royal Geographical Society (with the Institute of British Geographers).

Stable URL: <http://www.jstor.org/stable/621415>

Nayef R.F. and Al-Rodhan, 2006. Definitions of Globalization: A Comprehensive Overview and a Proposed Definition. Published by Geneva Centre for Security Policy.

Stable URL: <http://www.sustainablehistory.com/articles/definitions-of-globalization.pdf>

Smith, D.W, 1998. "Urban food systems and the poor in developing countries", in the *Transactions of the Institute of British Geographers*, New Series, Vol. 23, No. 2, pp. 207-219. Published by: Blackwell Publishing on behalf of The Royal Geographical Society (with the Institute of British Geographers).

Stable URL: <http://www.jstor.org/stable/623267>.

Tweeten, L., 1999. "The Economics of Global Food Security", in the *Review of Agricultural Economics*, Vol. 21, No. 2 (Autumn - Winter, 1999), pp. 473-488. Published by: Oxford University Press on behalf of Agricultural & Applied Economics Association.

Stable URL: <http://www.jstor.org/stable/1349892>

Kenya Census 2009, Population and Housing Census Results, Published by Ministry of State for Planning, National Development and Vision 2030.

URL: <http://www.knbs.or.ke/Census%20Results/Presentation%20by%20Minister%20for%20Planning%20revised.pdf>

<http://marsgroupkenya.org/census/?data=sycon&province=1:Nairobi+Province&constituency=005:DAGORETTI>

Vaughan, L, et al, 2009. "Do the suburbs exist? Discovering complexity and specificity in suburban built form", in the *T I BRIT GEOGR* , 34 (4) 475 - 488. Article first published online: 8 SEP 2009. DOI: 10.1111/j.1475-5661.2009.00358.x© 2009 .

Stable URL <http://discovery.ucl.ac.uk/16144/1/16144.pdf>

APPENDICES

The following are my appendices;

Appendix I: Structured questionnaire for the household interview

Appendix II: Key informant interview guide

Appendix III: Focus group discussion guide

Appendix IV: Observation checklist

APPENDIX I: STRUCTURED QUESTIONNAIRE FOR THE HOUSEHOLD INTERVIEW

Title of the Study: The Social Dynamics of Food Security in Suburban Areas: A Case Study of Dagoretti, Nairobi.

Introduction

I am Misheck Mutembei Kainga, a post graduate student at the University of Nairobi, Faculty of Arts in the Department of Sociology and Social Work. I am doing a Master of Arts Degree in Sociology (Rural Sociology and Community Development).

I am undertaking a research on *"The social dynamics of food security in suburban areas: A case study of Dagoretti, Nairobi County"*.

I am kindly requesting you to participate in this study so that you can assist me in carrying out the research. The information you give shall be treated with utmost confidence. You may provide your name or opt not to give any identification in this questionnaire. In addition you are only required to answer questions you are comfortable with. More so, you can seek for clarification on the questions you find unclear to you.

I would like to ask you a few questions about Dagoretti Constituency as a suburban area in regard to food security.

Kindly provide the correct answer for the following questions for this research.

Thank you in advance for taking your time.

Date of the Interview:/...../.....

Demographic information

(i) Name of person being interviewed (optional)

(ii) Division

(iii) Location.....

(iv) Sex

(a) Male (b) Female

(v) What is your age bracket?

(a) 18 - 25 years (b) 26 - 35 years (c) 36 - 45 years
(d) 46 - 55 years (f) 56 years and above

(vi) Marital status

(a) Married
(b) Single
(c) Divorced
(d) Widow(er)
(e) Separated

(vii) What is your Occupation?

(a) Public service
(b) Religious Leader
(c) Business person
(d) Employed in private Sector as skilled worker
(e) Employed in Private Sector as non- skilled worker
(f) Student
(g) Farmer
(h) Other (specify)

APPENDICES

The following are my appendices;

Appendix I: Structured questionnaire for the household interview

Appendix II: Key informant interview guide

Appendix III: Focus group discussion guide

Appendix IV: Observation checklist

APPENDIX I: STRUCTURED QUESTIONNAIRE FOR THE HOUSEHOLD INTERVIEW

Title of the Study: The Social Dynamics of Food Security in Suburban Areas: A Case Study of Dagoretti, Nairobi.

Introduction

I am Misheck Mutembei Kainga, a post graduate student at the University of Nairobi, Faculty of Arts in the Department of Sociology and Social Work. I am doing a Master of Arts Degree in Sociology (Rural Sociology and Community Development).

I am undertaking a research on *"The social dynamics of food security in suburban areas: A case study of Dagoretti, Nairobi County"*.

I am kindly requesting you to participate in this study so that you can assist me in carrying out the research. The information you give shall be treated with utmost confidence. You may provide your name or opt not to give any identification in this questionnaire. In addition you are only required to answer questions you are comfortable with. More so, you can seek for clarification on the questions you find unclear to you.

I would like to ask you a few questions about Dagoretti Constituency as a suburban area in regard to food security.

Kindly provide the correct answer for the following questions for this research.

Thank you in advance for taking your time.

Date of the interview:/...../.....

1. Demographic information

(i) Name of person being interviewed (optional)

(ii) Division

(iii) Location.....

(iv) Sex

(a) Male (b) Female

(v) What is your age bracket?

(a) 18 - 25 years (b) 26 - 35 years (c) 36 - 45 years
(d) 46 - 55 years (f) 56 years and above

(vi) Marital status

(a) Married
(b) Single
(c) Divorced
(d) Widow(er)
(e) Separated

(vii) What is your Occupation?

(a) Public service
(b) Religious Leader
(c) Business person
(d) Employed in private Sector as skilled worker
(e) Employed in Private Sector as non- skilled worker
(f) Student
(g) Farmer
(h) Other (specify)

(viii) Occupation of your spouse

- (a) Public service
- (b) Religious Leader
- (c) Business person
- (d) Employed in private Sector as skilled worker
- (e) Employed in Private Sector as non- skilled worker
- (f) Student
- (g) Farmer
- (h) Other (specify)

(ix) Level of Education

- (a) University or College Graduate
- (b) Secondary
- (c) Primary
- (d) Not attended School
- (e) Other(specify).....

(x) Average monthly income

- (a) Kshs. 5,000 and below
- (b) Kshs 5001 - 10,000
- (c) Kshs. 10001 - 20,000
- (d) Kshs. 20,001 - 50,000
- (e) Kshs. 50,001 and above
- (f) Other(specify).....

2. What are the sources of food in this area? (Tick each that applies in this area)

- (a) Farming
- (b) Keeping livestock
- (c) Rearing poultry
- (d) Purchasing from supermarkets and local food stalls
- (e) Scavenging for it
- (f) Charitable organizations (like NGOs and government food aid)

(g) Others(specify).....
.....

3. What is the main source of food in this area?

- (a) Farming
- (b) Keeping livestock
- (c) Rearing poultry
- (d) Purchasing from supermarkets and local food stalls
- (e) Scavenging for it
- (f) Charitable organizations (like NGOs and government food aid)
- (g) Others(specify).....
.....

4. What are the sources of food in this household? (Tick each that applies in your household)

- (a) Farming
- (b) Keeping livestock
- (c) Rearing poultry
- (d) Purchasing from supermarkets and local food stalls
- (e) Scavenging
- (f) Begging from well wishers
- (g) You receive remittances from your rural home or from the Diaspora
- (h) Charitable organizations (like NGOs and government food aid)
- (i) Others(specify).....
.....

5. What is the main source of food in this household?

- (a) Farming
- (b) Keeping livestock
- (c) Rearing poultry
- (d) Purchasing from supermarkets and local food stalls
- (e) Scavenging
- (f) Begging from well wishers

- (g) You receive remittances from your rural home or from the Diaspora
- (h) Charitable organizations (like NGOs and government food aid)
- (i) Others(specify).....
.....

6. Do you grow food crops here?

- (a) Yes
- (b) No

If yes, which crops? Specify

- (a)
- (b)
- (c)
- (d)
- (e)

7. Do you keep animals here?

- (a) Yes
- (b) No

If yes, which animals? Specify

- (a)
- (b)
- (c)
- (d)
- (e)

8. Do you keep Poultry?

- (a) Yes
- (b) No

If yes, which poultry?

- (a) Chicken
- (b) Turkey
- (c) Ducks

(d) Others(specify).....
.....

9. What is your opinion on availability of food

- (a) Poor
- (b) Fair
- (c) Good
- (d) Very Good

10. What is the main farming system practiced in this area?

- (a) Urban Agriculture
- (b) Large scale farming
- (c) Livestock keeping
- (d) Mixed farming
- (e) None
- (f) Others(specify).....
.....

11. What influence does urbanization have on farming and keeping of livestock and poultry in this area? (Tick each that applies in this area)

- (a) Farm land size has remained the same as in the past.
- (b) There has been subdivision of farmlands into commercial plots.
- (c) People are now practicing urban agriculture
- (d) Nothing has changed
- (e) You do not know
- (f) Others(specify).....
.....

12. What is the main influence of urbanization on food security in this area?

- (a) People are abandoning farming for other economic activities.
- (b) The land available for farming and livestock is diminishing
- (c) It has not had any effect on food security
- (d) You do not know
- (e) Others(specify).....
.....

13. What is the main food security challenge faced by people of Dagoretti?

- (a) Food availability is being affected
- (b) There is rising cost of food
- (c) Tough City by-laws
- (d) You do not know
- (e) None

(f) Other(specify).....
.....
.....

14. In your own opinion, what are the food security challenges faced by people in your area?

- (a)
- (b)
- (c)
- (d)
- (e)
- (f)
- (g)
- (h)
- (i)

15. What is the average land acreage available for farming in Dagoretti?

- (a) Less than 1 acre
- (b) 1-2 acres
- (c) 2-5 acres
- (d) 5 acres and above
- (e) You do not know

(f) Other(specify).....
.....
.....

16. How do you earn your living to meet the food security challenges?

- (a) Farming and keeping livestock
- (b) You are a landlord and you get your income from rental premises
- (c) You are employed in agriculture - related activity
- (d) You are employed in non - agriculture-related activity
- (e) You are a business person
- (f) You receive remittances from your rural home or from the Diaspora
- (g) Begging from well wishers
- (h) Other(specify).....
.....
.....

17. Considering your income, what approximate amount of your income do you spend on food?

- (a) All your income
- (b) Half of your income
- (c) A quarter of your income
- (d) A third
- (e) A fifth
- (f) Other (specify)

APPENDIX II: KEY INFORMANT INTERVIEW GUIDE

**Title of the Study: The Social Dynamics of Food Security in Suburban Areas:
A Case Study of Dagoretti, Nairobi.**

Introduction

I am Misheck Mutembei Kainga, a post graduate student at the University of Nairobi, Faculty of Arts in the Department of Sociology and Social Work. I am doing a Master of Arts Degree in Sociology (Rural Sociology and Community Development).

I am undertaking a research on *“The social dynamics of food security in suburban areas: A case study of Dagoretti, Nairobi County”*.

I am kindly requesting you to participate in this study so that you can assist me in carrying out the research. The discussion shall be treated with utmost confidence. You may seek for clarification on an issue you find unclear to you.

Thank you in advance for taking your time.

I would like us to hold a discussion about Dagoretti Constituency as a suburban area in regard to food security.

Date of the interview:/...../.....

1. Demographic information

(ii) Name of person being interviewed

(optional).....

(iii) Title

(iv) Division

(v) Location.....

2. What is your general view on urban agriculture?

.....
.....

.....
.....
.....
.....
.....
.....
.....

3. Do you believe that there is an issue of food security in Dagoretti?

- (a) Yes
- (b) No

(IF YES), what are the main factors affecting food security in Dagoretti?

- (a)
- (b)
- (c).....
- (d).....
- (e).....

4. According to you, which farming systems do people of Dagoretti practice?

- (a)
- (b)
- (c)
- (d)
- (e)

5. What do you think of the current food production in Dagoretti?

- (a) Poor
- (b) Satisfactory
- (c) Good
- (d) Very good

(e) Other(specify).....
.....
.....

6. In your opinion, what influence has urbanization had on food security in suburban areas?

.....

.....

.....

.....

.....

.....

.....

.....

7. In your opinion, what influence has urbanization had on food security in Dagoretti?

.....

.....

.....

.....

.....

.....

.....

.....

8. Comment on the food security challenges faced by people of Dagoretti?

.....

.....

.....

.....

.....

.....

.....

.....

9. In your own view, where/how do people of Dagoretti get their food?

- (a)
- (b)
- (c)
- (d)
- (e)

10. Would you clarify on the average land acreage available for farming in Dagoretti?

- (a) Less than 1 acre
- (b) 1-2 acres
- (c) 2-5 acres
- (d) Other(specify).....
.....
.....

11. How do people of Dagoretti get their income to meet the food security challenges?

- (a) Farming and keeping livestock
- (b) Some are landlords who get their income from rental premises
- (c) Some are employed in agriculture – related activity
- (d) Some are employed in non – agriculture-related activity
- (e) You are a business person
- (f) You receive remittances from your rural home or from the Diaspora
- (g) Begging from well wishers
- (h) Other(specify).....
.....
.....

12. In your own opinion, what is the main challenge that affects food security in Dagoretti?

.....
.....
.....
.....
.....

THANK YOU for taking the time to participate in this interview. I appreciate your co-operation in this process.

APPENDIX III: FOCUS GROUP DISCUSSION GUIDE

Title of the Study: The Social Dynamics of Food Security in Suburban Areas: A Case Study of Dagoretti, Nairobi.

Introduction

I am Misheck Mutembei Kainga, a post graduate student at the University of Nairobi, Faculty of Arts, in the Department of Sociology and Social Work. I am doing a Master of Arts Degree in Sociology (Rural Sociology and Community Development).

I am undertaking a research on *"The social dynamics of food security in suburban areas: A case study of Dagoretti, Nairobi County"*.

I would like us to hold a participatory discussion on Dagoretti Constituency as a suburban area in regard to food security. This will take about one hour. I am kindly requesting you to participate in this study so that you can assist me in carrying out the research. The discussion shall be treated with utmost confidence. You may seek for clarification on an issue you find unclear to you.

Some refreshments will be served as the discussion is going on. At the end of the discussion you will get some compensation of Kshs. 150.00 to cater for your transport back home.

Thank you in advance for taking your time.

Date of the Discussion:/...../.....

Questions for discussion

1. Comment about food availability in this area.
2. What are the sources of food in this area?
3. What is the main source of food in this area?
4. Food crops grown here?
5. What are the main animals kept here?

6. What are the main Poultry kept here?
7. What is the main farming system practiced in this area?
8. In your own opinion, what influence does urbanization has on farming and keeping of livestock and poultry in this area?
9. In your own opinion, what is the main influence of urbanization on food security in this area?
10. Give the main food security challenge faced by people of Dagoretti?
11. In your own opinion, what are other food security challenges faced by people in your area?
12. What is the average land acreage available for farming in Dagoretti?
13. How do you earn your living to meet the food security challenges?

APPENDIX IV: OBSERVATION CHECKLIST

An observation checklist is a list of things that I will be going to look at when observing Dagoretti as a suburban area in regard to food security. It will give me a structure and framework for observation, and also assist me get specific feedback on aspects of the study.

The following will be my observation checklist;

1. What are the farming systems among the residents of Dagoretti?
2. Is urbanization spreading to Dagoretti?
3. What is the main source of food for the residents of Dagoretti - from the shamba or the market?
4. What is the average land acreage?
5. What is the average percentage of Dagoretti residents who grow food and keep livestock?
6. What is the average percentage of Dagoretti land that has been commercialised into plots?
7. How do the people cope with the life of being torn between rural and urban way of life?
8. What challenges do the people face in their quest to ensure food security?